THE CULTIVATOR.

NEW "TO IMPROVE THE SOIL AND THE MIND." SERIES

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THE CULTIVATOR

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THE CULTIVATOR.

TO OUR SUBSCRIBERS.

With this number terminates the first volume of the new series of "THE CULTIVATOR," and with it, in accordance with the custom pursued from its commencement, all subscriptions cease, except those paid for another year. The low price of our paper renders it necessary for us to adhere to the "cash system," as it would be impossible to collect the trifling amount of the annual subscription from subscribers scattered over the whole extent of our country. We hope, however, that most of those who have read "THE CULTIVATOR," the present year, have been sufficiently interested in its monthly visits to induce them to renew their subscriptions for the vol. for 1845, by immediately remitting their dollar through the hands of their postmaster.

The Cultivator was the first to introduce, to any extent, the system of illustrating Agricultural subjects by engravings; and in this branch of our paper we can promise our friends some very decided improvements in the course of our next volume. We have already in the hands of the Engravers, FOUR SPLENDID DRAWINGS, representing some of the beautiful residences on the banks of the Hudson, and portraits of the prize animals at the late State Fair at Poughkeepsie—two of these are being engraved on STEEL, in the best style of the art—the others on wood, in a style far superior to any we have heretofore given. These plates, with the other numerous cuts interspersed through each number, will give a beauty and character to the next volume far exceeding any that have preceded it. Our printer also promises us some improvement in the quality of the paper on which the Cultivator is printed, as well as in the manner in which the printing is executed.

The Proprietor has also made such arrangements for assistance in the editorial department, as will, he trusts, enable him fully to sustain the high character his paper has heretofore enjoyed. To improve its character in this respect, he has little hopes; but his readers may rest assured that the whole energies of his mind will be devoted to his favorite pursuit, and that no effort on his part will be wanting to render the succeeding volume of the Cultivator a worthy and welcome visitor at the domestic hearth of every farmer and every lover of rural pursuits.

To our numerous friends, in every section of our extended country, who have favored us with their valuable contributions to our pages, and thus given to them a value and interest they would not otherwise have attained—to those who have so liberally exerted themselves from year to year to extend the circulation of the Cultivator among their neighbors and friends, without other reward than the hope of benefiting those into whose hands they placed it—and to Postmasters and Editors, to whose courtesy we are so much indebted, we tender our grateful thanks, and beg to assure them that we shall deem ourselves most fortunate if we can continue to make our paper worthy of the kind reception it has hitherto received at their hands.

THE CENTRAL NEW-YORK FARMER, which has for the last three years been published at Rome, will, on the first of January, be united with "The Cultivator," and one of its Editors, Mr. COMSTOCK, will become a regular contributor to this paper. This, with occasional communications from his associates, Messrs. JOHNSON and BEMENT, will, it is believed, commend the Cultivator to the attention and favor of the friends of the Farmer.

Messrs. COMSTOCK and JOHNSON, the proprietors of the Central N. Y. Farmer, will publish the Cultivator at Rome, where subscriptions will be received and business transacted the same as at the proprietor's office in Albany. This arrangement will, we doubt not, meet the approbation of the friends of both papers.

AGENTS.—We publish on our last page, a list of Agents in the principal cities, that our subscribers in those places may know where they can renew their subscriptions. To give a list of all our Agents would occupy more room than we can spare; we would therefore state that all Postmasters are authorized to act as Agents, and so also are all subscribers, many of whom will, we hope, second our efforts in behalf of agriculture, by making such exertions as they can conveniently, during the present month, to increase the circulation of our paper for the next year.

THE FARMER'S MUSEUM.—The paper issued from this office during the present year, under this title, will be discontinued this month.

MONTHLY NOTICES.

COMMUNICATIONS have been received, since our last, from S. Y., A., J. P. Norton, L. H. Hare, C. T. Jackson, J. Eights, A. Leeds, (dated in *May,*) A Subscriber, J. Boyd, H. S. Randall, C. C. Hamilton, Wm. N. Green, J. J. Thomas, J. A. Badger, A. Coffin, A. D., A Farmer's Wife, D. B. L., Tyro, P. Eastwood, T. H. Darrow, O. Hussey, Noyes Darling, W. C. Redfield, D. G. Mitchell, W. R. Gilkey, Joseph Walker, E. R.

BOOKS, &c. have been received as follows:—"Landscape Gardening and Rural Architecture," by A. J. Downing, 2d edition, and Johnston's "Agricultural Chemistry," complete in two vols., from the publishers, WILEY & PUTNAM, New-York—"The American Poulterer's Companion," by C. N. BEMENT, from the author—"The Journal of Agriculture, for October," from the Highland and Ag. Society of Scotland—Papers containing Proceedings of Ag. Societies and Ag. Addresses, from A. L. KENNEDY, Esq. Philadelphia, C. C. HAMILTON, Esq. Cornwallis, Nova Scotia, Messrs. CARVER & WASHBURN, Bridgwater, Mass.; L. L. LOWELL, Esq. Calias, Maine; SIDNEY CHAPIN, Esq. Springfield.—Report of the Committee on Horticulture, at the Fair of the American Institute, from T. BRIDGEMAN, Chairman, New-York.—Transactions of the New-Castle (Del.) Ag. Society, together with the Address delivered at its late Fair, by J. S. SKINNER, Esq., from Dr. THOMSON, President of the Society—"Notes on Indian Agriculture, as practiced in the Bombay Provinces of India, by Alex. Gibson, Esq." from Hon. EDWARD EVERETT, our Minister at the Court of St. James.

We are also indebted to Messrs. H. & P. G. ALLEN, Duanesburgh, for a capital cheese, and to various other friends for three barrels and a box of Apples, and a lot of choice Poultry, for all which, those who have thus remembered us, will please accept the assurance that these tokens of respect are most kindly remembered.

FOREIGN CORRESPONDENCE.—We esteem ourselves most fortunate in being favored with the Letters of Mr. NORTON, all of which have been marked by a sound and discriminating judgment, and a direct and practical character, reflecting the highest credit upon our young countryman. We would invite particular attention to the one we publish this month, which will be found of unusual interest. It will be seen that we this month commence a series of letters from another of our countrymen in England. Mr. MITCHELL contemplates spending most of the next year in Great Britain, and has promised us a series of letters, from which we anticipate much interest.

☞ M. B. BATEHAM, Esq. at present editor of the New Genesee Farmer, at Rochester, is, we regret to learn, about to leave our State. He has done much to advance the cause of agricultural and horticultural improvement in Western New-York, where he has long resided, by the introduction of new seeds, fruits, implements, &c. as well as by his labors as Editor of the Farmer. We understand he designs locating himself in Ohio, and we take this opportunity to commend him to the people of that State, as a gentleman of extensive knowledge in rural affairs, a scientific and practical horticulturist and florist, and in all respects entitled to their confidence.

SUPERIOR APPLE.—Mr. T. H. Hyatt, of Rochester, has left with us a sample of a kind of apple which he thinks a seedling. It is medium sized, has a thin, smooth skin, of a golden color, with a rosy tinge on one side. It is a fair, beautiful, and exceedingly well flavored apple, ripening from first of November to Christmas. Whether it is a seedling or not, it is certainly a very valuable apple. If it should appear that it has never received a name, we would suggest that of *Hyatt's seedling.*

SALE OF THE LATE MR. GROVE'S SAXON SHEEP.—We are glad to learn that these sheep brought fair prices. The flock in Medina county, Ohio, sold at an average of about $9 per head, and the home flock averaged over $7 per head. For the production of wool for the finest cloths, these sheep are highly valuable, and if properly managed, will yield good profits to the owners.

FRANKLIN COLLEGE, near Nashville, Tennesssee.—We have before spoken of this institution, and it now affords us pleasure to state that the necessary buildings, and all the arrangements, are so far completed, that it will soon be opened to the public. The first session will be commenced on the first day of January next, under the charge of T. FANNING, President, assisted by able Professors in the different departments. A more extended notice of the institution will be given in our next.

STOCK FOR THE GENESEE VALLEY.—Mr. T. H. HYATT, of Rochester, lately purchased of Mr. BEMENT, of this city, from Durhams, viz.—one cow "Victoria," a yearling heifer, the bull calf which received the first premium, and the heifer calf which received the second premium on Durhams at the late Show at Poughkeepsie. Mr. H. also purchased of MESSRS. CORNING & SOTHAM, a pair of yearling Herefords—a bull and heifer. They are of prime blood, and will give the farmers of the rich district where they are to be kept, an opportunity of estimating their qualities in comparison with other noted breeds.

NOTICE TO COUNTY AG. SOCIETIES.—We are requested to call the attention of the proper officers of the County Ag. Societies of the State to the 4th section of the "Act for the encouragement of Agriculture," passed 1841, or that part which is in these words: "And the said Presidents of the several County Agricultural Societies, shall annually transmit in the month of December, to the Executive Committee of the New-York State Agricultural Society, all such reports or returns as they are required to demand and receive from applicants for premiums, together with an abstract of their proceedings during the year." Attention to this provision is deemed important, that the State may receive the full benefit of its expenditures, in the embodying of the information intended to be so collected, in the annual Report of the State Society to the Legislature.

SOUTH-WESTERN FARMER.—This is a weekly paper published at Raymond, Mississippi, devoted to agriculture, general intelligence, &c., edited by Dr. M. W. PHILLIPS and N. G. NORTH, Esq. It has been in existence about three years, has been ably conducted, and is altogether a paper well worthy the patronage of the south-western public. The next volume is to be published in octavo form, at $3 per year. Success to it.

NEW-CASTLE COUNTY (DEL.) AG. SOCIETY.—We have received a pamphlet containing the transactions of this Society at the annual meeting held at Wilmington, on the 11th and 12th of September, 1844, together with the address delivered on the occasion by JOHN S. SKINNER, Esq. The reports of the various committees show that there was a good exhibition of fruits, flowers, domestic manufactures, and agricultural implements, neat cattle of all descriptions, horses, sheep, and swine. In addition to the departments of the exhibition mentioned, there was a plowing-match and trial of plows. The centre draft plow of Messrs. Prouty & Mears, received the preference at the match. A premium was awarded to Mr. Wm. Webb for a sample of 20 lbs. of corn-stalk sugar, which the committee appointed to examine it, say was—"well grained, and a handsome light brown color, affording evidence that this manufacture is *progressing and improving.*" Mr. Skinner's address, was a very spirited and excellent production, well calculated to encourage the agriculturist in his career of improvement, and to induce him to take the high stand which justly belongs to him, in his social and political relations.

AGRICULTURAL SURVEY OF HAMILTON COUNTY, OHIO.—We learn that the Agricultural Society of Hamilton co. O., have appointed A. RANDALL, editor of the "Plow-Boy," and CHAS. WHITTLESEY, formerly a member of the geological corps of that state, to make an Agricultural Survey of the county. The work has been sometime in progress, and the commissioners expect to be able to publish their report soon after the first of January next. The survey is conducted with great minuteness. The commissioners proceed from farm to farm, collecting the details of every man's practice and management, and the matter so gathered, will constitute the basis of their report. In their Circular, the Commissioners say: "with the facts we expect to procure we shall be enabled to give not *theories* but *results,*—we shall thus give to every farmer the *experience* of every other farmer, en-

gaged upon the same crops, in the same agricultural region."

This appears to us to be a very judicious mode of conducting such a survey, and we cannot doubt that it will prove highly useful.

CONDENSED CORRESPONDENCE.

PUMPKINS.—Mr. L. Durand informs us that he raised the past season, eleven large cart loads of pumpkins, from about three acres of corn ground. The pumpkins were planted one seed in a place, about the first of June, in about every third hill of every third row of corn. The ground was well manured with long stable manure. The corn crop was good. Mr. Durand mentions that the little striped bug, (*Galeruca vittata*, of Dr. Harris,) which is often so destructive to vines, has not been seen in his neighborhood, the past season. We are also informed that in some parts of Massachusetts, the same remarkable disappearance of that insect has been observed. The curculio has almost totally vanished from the eastern section of that State. No cause for their sudden exit is known. The periodical appearance and disappearance of insects, is sometimes strange and unaccountable. Mr. Durand also says he has not seen any of the large black pumpkin or squash bugs, (*Coreus trispis*,) the past season. We do not know that this insect has been generally less common this season than usual. Mr. Durand says he "never could see that these bugs eat either the stalk or vine." They certainly do eat both. When squashes or pumpkins are but just out of the ground, and have only two leaves, (seed leaves, as they are called,) the black or brown bug screens itself on the under side of the leaves, and feeds on the stalk near the ground. At this tender stage of the plant, the punctures of the insect soon destroy it. As Mr. D. suggests, the use of ground plaster, scattered on the leaves, is a good thing to keep off the bugs.

BONE MILLS.—We have received a letter from Mr. Peter Eastwood, who is desirous of obtaining a contract for the erection of a mill for grinding bones. He states that he has had much experience in England in building such mills—that he is by trade a mill-wright, and for the last thirty years, has ground bones both for his own use, and for sale—and is well acquainted with the application of bones to the different kinds of soil, the different quantities required, &c. Should any person be disposed to engage Mr. Eastwood for the erection of a bone-mill, a letter would reach him, addressed to the care of Anderson Keese, Keeseville, N. Y.

BOKHARA CLOVER.—Mr. Jos. A. Badger, of Fabius, Onondaga county, N. Y., makes some inquiries about the Bokhara clover, to which we reply, that it is ascertained to be nothing more than common melilot, (sweet clover,) or a species so nearly resembling it that the difference is scarcely perceptible. We are not aware that it possesses any valuable properties as food for stock. It is sometimes used in a similar manner to sage in seasoning cheese, and it makes excellent pasture for *bees*.

INQUIRY—STRAW CUTTER.—Mr. ALEXANDER LEEDS, of St. Joseph, Michigan, asks us "which is the best corn-stalk cutter?" He says—"By the best, I mean the one which is most likely to keep in good order; to do the most work in a certain time by the same power; the easiest to work by hand, and the cheapest as to price."

Wm. Hovey, Worcester, Mass., manufactures a machine which is very popular. For cutting hay or straw, it is by many thought superior to any other. He received the first premium at the New-York State Show this year, and also that of the Mass. State Ag. Soc. We think the price of this machine is $25. We noticed a machine at the Poughkeepshie Show which we thought particularly well adapted to cutting corn-stalks, offered by Thos. P. Thorne, Fishkill. It received one of the premiums. The price of this machine is $25. Another quite simple and effective machine was offered by J. C. Conklin, Peekskill. Its price is $18.

Mr. Leeds also further inquires—"Will you also inform me if it is better to cut hay for cattle, or to feed it out uncut? Farmers here depend much upon the hay from the wild grass of neighboring marshes, there not being much Timothy or clover raised, and the cattle waste nearly if not quite one quarter of this wild hay."

On this subject, our correspondent will find a valuable article in the current volume of the Cultivator, at page 18. In relation to the wild grass he speaks of, his cattle would probably eat it better if cut, and especially if a small quantity of bran, shorts or meal was mixed with the chaff. There is unquestionably a saving of fodder, whether it be hay, straw or corn-stalks, by cutting, but the economy of the operation must depend on the comparative price of hay and labor.

WIVES AND DAUGHTERS.—Our correspondent "L—," of Michigan, strongly recommends the English practice of all hands, men, women and children, joining in the labors of the harvest field. We have not room for the article at length, which is prefaced by an extract from Thomson's seasons, beautifully descriptive of the harvest scene, and even, did space allow, we fear that L.'s remarks would find but little favor. We give a brief extract: "At the present time, in most of the countries of Europe, harvest work is done by male and female reapers in about equal numbers; and it is much to be wished that the fair daughters of Columbia, would imitate their European sisters as much in the harvest field as they do in the toilet. It would invigorate their constitutions, improve their appearance, and add much to the prosperity of the country; and instead of having the appearance of factory girls, they would resemble the picture of rural beauty, so graphically drawn by Walter Scott in his Lady of the Lake:

> What tho' the sun with ardent frown
> Had slightly ting'd her cheek with brown?
> What tho' upon her speech there hung
> The accent of a mountain tongue?
> A foot more light, a step more true,
> Ne'er from the heath flowers brush'd the dew."

RAISING CLOVER.—Mr. Henry Bremen, of Enfield, Tompkins county, N. Y., thinks the raising of clover seed is very profitable. At four dollars a bushel, he thinks it affords a better profit than any kind of grain. His mode of raising seed from the *large kind* of clover, is to pasture it till the 12th or 15th of June, then sow on some plaster, and mow as soon as three-fourths of it is ripe. He says by mowing it thus early, more seed is got than if it stood till fully ripe; because in the latter state, a quarter of the seed is lost in gathering. For the *small kind* of clover, mow from the 20th to the 24th of June; plaster immediately after the hay is off. The second growth will give good seed. It is common for many farmers to gather their clover seed early, and sow the sod with wheat the same fall, and in most cases, it is the best fallow we have for wheat, leaving the ground in fine condition for wheat, and affording much vegetable matter to plow under.

N. Y. STATE AG. SOCIETY.

The annual meeting of this Society, will be held at the Society's Rooms in this city, on Wednesday, the 15th of January next, at 10 o'clock. Applicants for premiums on farm crops, Experiments, Essays, &c., are reminded that their statements must be forwarded to the Recording Secretary, Albany, on or before the first of January.

AGRICULTURAL SOCIETIES IN NOVA SCOTIA.

We are glad to learn that agriculture is evidently improving in this province. In the *Halifax Morning Post*, we have accounts of several exhibitions which have been held during the past fall, evincing a spirit and enterprize highly creditable to the farmers of that country. The Cattle Show of the King's County Ag. Society, which took place on the 25th of September, was well attended—many fine animals were exhibited, and more than £100 were distributed in prizes. We trust our Nova Scotia brethren will persevere in the good cause which they seem to have commenced with so much zeal, and send us another account of their progress.

He who masters his passions conquers his greatest enemy. Mature deliberation is always better than hasty decision.

Foreign Correspondence.

MR. NORTON'S LETTERS—No. V.

Lab. of Ag. Chemistry Association,
Edinburgh, Sept. 24, 1844.

MESSRS. EDITORS—In the August number of the Cultivator I noticed a paragraph, attributing much value to horn piths as a manure. It especially interested me, as I have lately made an analysis of these piths, or flints, as they are called in this country. They are sold in this city for $4 a ton, and are shipped to Manchester and elsewhere, for the purpose of making size for calicoes. The specimen analyzed by myself was sent to the Laboratory by a gentleman who wished to know its agricultural value. The result was as follows:

Water,	10·31
Organic matter, fat, gelatine, &c.	35·84
Ash—consisting of Phosphate of Lime, 46·14, Carbonate of Lime, 7·71,	53 85
	100·00

We thus have in these horn flints a most powerful manure, both as to its organic and inorganic constituents, fully equal to bones. In *England* such manures are not suffered "to lie on the hill sides" and "manure the air." Bones, as containing nearly every substance required for the growth of crops, have now an undisputed place among the very first of fertilizers. They are brought here from all quarters of the world, and to our shame it is a fact that English agents are purchasing them in the United States. You may truly ask "what is the use of importing guano, or buying poudrette," when we are neglecting a manure, nearly equal in its immediate effects to either of them, and far more permanent.

The price of bones in this country is from £5 to £6 per ton. When buried whole, they remain for a long time almost unchanged in appearance, but nevertheless afford a constant though limited supply of nourishment to the crops. As they are generally applied in the crushed state, the effect is more striking and immediate. Even then, it is permanent and has been known to last for 30 years. It has been a disputed point, whether the fertilizing action of bones is due to the organic or inorganic part. Some celebrated authorities have not hesitated to ascribe it wholly to the phosphates of the latter, but we know that the gelatine or glue of the former is also a very powerful manure, and that even at the end of many years, a portion of it still is retained in the bone, practically refuting those who have founded their arguments upon its perishability. It is far safer to conclude that both portions have their appropriate action and that both are necessary.

The horn flints cannot well be crushed in a bone mill as from their softness they clog the mill. They may however be with much advantage dissolved in sulphuric acid. This mixture, of sulphuric acid with bones, has within a few years come into use in this country, and is one of the beautiful results of science applied to agriculture. Prof. Johnston has furnished me with some statements upon this subject, from which I will quote, as facts are worth far more than words to the farmer. Mr. Bell, the farm steward at Gordon Castle, conducted experiments in four different ways:

1. One Imperial acre manured with 8 bushels bones and 14 cubic yards farm yard dung at £3, produced 12 tons of turneps.

2. One do. manured with 2 cwt. 91 lbs. guano, and 14 cubic yards farm yard dung at £1 17*s*. 4*d*. produced 11 tons 4 cwt.

3. One do. manured with 16 bushels of bones, at £1 16*s*. produced 11 tons.

4. One do. manured with 83 lbs. sulphuric acid and 2 bushels bone dust, mixed with 700 gallons water, at 11*s*. 6*d*. produced 12 tons 4 cwt.

Mr. Manson of Spynie, gives a similar result. In his field of 21 acres of turneps, 13 were sown with farm yard dung, and 8 with bones and sulphuric acid. 20 cart loads of the dung were applied per acre at a cost of £2 10*s*. Of bones 4 bushels and sulphuric acid 96 lbs per acre; the mixture largely diluted with water; the result was:

Sulphuric acid and bones at £1 per acre, produced 12 tons 5 cwt. 80 lbs.

Farm yard manure at £2 10*s*. per acre, produced 10 tons 17 cwt. 104 lbs.

Mr. McWilliam of the Sheriffston farm in Morayshire has furnished a report of 19 experiments made on 30 acres of turneps, which all go to prove, as instances above, the very great value and *economy* of this application.

The best method of preparation is to dissolve the bones in acid so weakened by water that it will not char them. When they are completely dissolved it is ready for use. Those experiments seem to have been most successful when the solution of bones thus prepared was very largely diluted with water, so as to make it nearly tasteless. It is applied by means of carts contrived for the purpose. It would be less expensive, if instead of diluting with water the solution were taken up by peat or some other absorbent and sown by hand—the *immediate* effect, however would not be as great.

Sulphuric acid alone has been found to exercise the same beneficial action upon clover, that attends the use of gypsum, (sulphate of lime) and it is therefore with every prospect of benefit that this mixture, containing not only the sulphuric acid and the lime, but the other substances which plants most need, might in such a diluted state be applied as a top dressing to clover and all those crops upon which gypsum has been found to produce a good effect. Of course the first trials should be made cautiously, and in small quantities.

As in a former letter I wrote at some length of guanos, I may mention that I have recently examined a specimen of an artificial guano, known as Potter's Guano. It has been sold somewhat extensively, and he professes to adapt its composition to various soils. A former specimen analyzed here contained 30 per cent of sand, and this was sent to ascertain if similar fraud had been practiced. My result shows that he has been a little more cautious in this instance.

Water,	14·55
Organic matter,	17·82
Portion soluble in water, consisting chiefly of sulphate of soda, common salt and gypsum, with a small quantity of potash and ammoniacal salts,	40·43
Phosphate and carb. of lime,	11·61
Coarse sand with bits of gypsum,	16·06
	99·97

There is much here that is valuable, but the prudent farmer would think twice before he paid $15 or $20 a ton for a manure containing 30 per cent of sand and water. A microscopic examination showed it to contain woolen clippings, seeds, horn shavings, bits of sticks, leaves and weeds, sand, small stones, pieces of gypsum and several kinds of salts.

A specimen of an adulterated guano has also lately been examined here. It contained about 40 per cent of gypsum to 25 of water and sand. There was also a large quantity of some finely powdered material, probably coal ashes, mingled with it to give the proper color. This is the first instance of adulteration that has come under our notice. This laboratory has been a terror to evil doers throughout Scotland.

In my last letter I spoke of the examination in Glasgow of some boys from the Larne school. A letter received from Dr. Kirkpatrick states that the effect had been wonderful, spreading through all Ireland. Repeated applications have been made to the commissioners of schools to establish similar institutions. The number of applicants for admission to the Larne school has much increased, and they have been thronged with visiters. Mr. Colman has been there with Dr. Daubeny.

The schoolmasters of Scotland held their annual meeting here, a few days since. Prof. Johnston delivered two most admirable lectures of which I send a report. They were received with great interest, with even enthusiasm. Spirited resolutions were passed, and the whole body dispersed to the various parts of Scotland, determined to introduce agricultural instruction into all the primary schools.

Very truly yours,

JOHN P. NORTON.

LETTERS FROM MR. MITCHILL—No. I.

Liverpool, England, Nov. 4, 1844.

LUTHER TUCKER, Esq.

DEAR SIR—A month ago, and I was in Albany, and rode with your hospitable friend Bement, to look up his Three Hills and fine cattle, and then ran down your river, looking either side, and seeing much. Now, here I am, and a moment ago, in the street, a woman (will you believe it?) was gathering with her bare hands, into her apron, the fresh dung from the horses. What a change! Attend me a short walk into the country, and you shall see it more strikingly. First, the universal greenness, dazzles and tempts you, if subject to such impulses, to throw up your hands and exclaim, "beautiful!" There are no crooked fences—there are no tottling walls; but beside the pleasantly winding and McAdamized road, are fences of hewn stone, laid in mortar, and finished with coping. Back of them run the various hedges to every point of compass, varying the brightness of the meadow, with hundreds of brown brushy lines. Nor should I forget the trees, though bare, which belt around each large enclosure, and in the back ground interweave, seemingly, into a forest hedge, over which, however, peeps some tall gable end, or turret or chimney top. For these modest stone houses, with vine or ivy clambering over them by the roadside, do not contain the land owners. Even now, at our right, the hedges and shrubbery and trees are thickening, and a black smoke is soaring above them, and a diamond window and a porch, and beds of flowers and laurel trees and gravel walks, and an elegant gateway, and now a "fine old English gentleman's" house is in plain sight, which means that a rich merchant of Liverpool bought the place in view, employed a man of taste to arrange matters, and from it he rides in the morning, in a carriage somewhat like our old fashioned barouche, only a deal heavier, and to it again at night. We are tempted to stroll through the unlatched gate, along the gravel way, and to the field beyond, where we see some beautiful Southdowns feeding; but the "Notice—trespassers on these grounds, will be apprehended"—deters us, and we pass on.

Opposite, farther along, are the laborers harrowing, one leading the horses, geared *tandem;* the other swinging the harrow by cords, it being wholly of iron, and in three parts with hinges—perhaps 50 teeth. The seed is barley. The field is thrown into lands a rod wide, divided by water furrows, straight as an arrow. The soil, a rich clay loam, which the plow and harrow do not fail to pulverize. The plow is of long beam, very long handles, coulter resting on nose, and share curved under in front, almost joining the land-side—this I suppose, to lessen draught. Other plows I see of cast iron wholly. Objects of interest thicken as I pass on—yonder in the field is a group of cattle, and a score or more of Southdowns, which the boy tells me belong to the butchers—and further, that most of the fields passed, are rented by them. I cannot learn the rent, but jump the wall, and venture upon a look; the cattle are indifferently formed, parti-colored, and rough haired, but in good flesh, and good size. The sheep are the beauties; rampant as blood horses, and sleek as Berkshires; live weight, I should judge about 150 lbs. average. They were beauties. As we stroll back into the road, we see "£10 reward," for a red cow, offered by the Butcher's Provident Society. At the great sign-post, pointing to Warnstred, to Woolton, and to Walton, over the wall, are being dug a fine crop of potatoes of 4 acres, planted in drills, and turning perhaps 400 bushels to the acre. Twenty-eight hands, (I counted them,) are at work, all with a tool resembling our dung fork, with shorter and broader tines. The tops are nearly green, and thrown in heaps for manure. Monstrous heaps of compost arrest the attention in almost every field, of marl, ashes, street dung, &c. A stranger is very much struck with the black appearance of the trees—scarcely recognizing an individual specimen—but remembering the clouds of smoke are deluging the air from the great city behind, the wonder vanishes; I as yet recognize only the poplar, the elm, the maple, (English) the oak and Scotch fir. In choice collections I see the American laurel, (a beautiful shrub,) and the variegated laurel. Never can I cease admiring the tortuous course of the road; ever bringing up unlooked for objects of attention. In the distance, for instance, I see a field of dark blue green, and wonder what it may be; presently a new turn brings it to my side, and peeping through the matted hedge, I see as fine a lot of ruta bagas, and as fresh as were your Albany ones in September. These in rows, and of the size of pint bowls. Ahead, around a bit of a stone cottage, I count 15 stacks of hay, of (say) 10 tons each, all nicely thatched. The mode is in brief this: straw is laid upon outer edges; these bound by tar strings running round, fastened to forked sticks driven into the hay; after this, another layer bound over the jointure in same way. They are perfectly tight, easily thatched, and neat in appearance. Objects fail not, which are a feast to American eyes, the whole circuit home, which I reach at half past two; tired, but gratified. There are walks in reserve, and markets, and sights of farm implements and farm houses, and barns and horses and cattle, &c. &c., of which I may possibly give you future hints. Meantime, I remain yours truly.

D. G. MITCHELL.

FOREIGN INTELLIGENCE.

By the arrival of the steamer Hibernia at Boston, we have our usual files of foreign papers to the 4th of November, from which we compile the following:

AMERICAN PROVISIONS IN ENGLAND.

From a letter "*on the present state of the American provision trade,*" published in the Mark Lane Express, from J. and C. Kirkpatrick, dated Liverpool, Oct. 1844, we condense the following.

The strong prejudice which at first existed against American provisions, and for which there was good reason, in the inferior quality of the earliest arrivals, has been gradually removed, as shippers have learned to conform their brands to the wants of the English market.

Beef.—Great difficulty has been experienced in securing a footing in the British markets for this article, owing to the prejudice which the inferior character of the first shipments naturally produced; but the imports have been latterly of better quality. The Americans may have the *exclusive* supply of this article, if they will avoid the faults in cutting and packing which have formerly attached even to their best brands. Complaint is made that some of the late parcels were very dark in color, supposed to have been caused by a bad quality of salt, or badly seasoned casks. The casks have generally been made too large, allowing the meat to roll about; they should be made of such size as to admit the required quantity with tight packing, leaving room for a good heaving of salt. The meat too has often been most irregularly messed, the pieces being of very unequal sizes, whereas they should be cut as nearly as possible 8 lbs., and should be cut square and compact.

Pork has had less difficulty in finding its way into the English market, and less care has consequently been taken by curers in properly packing it. The position of the trade is therefore about the same that it has been for two years past; but it is capable of great extension if due care is only taken to suit the market. *Prime mess pork* should consist of 50 pieces of 4 lbs. each, from hogs weighing 160 to to 200 lbs., every part being packed except the head and legs. It is important that the meat be firm and well fed, and free from the oily character which American pork generally possesses. It should remain 36 hours after being killed, in order that it may become quite cold and firm, before it is packed.

CHEESE.—The import of this article to Liverpool during the past twelve months was somewhat over 1,400 tons; while the steady and progressive increase in the trade gives promise of a much extended import in coming years. The general quality of American cheese shows that the soil of the United States is well suited for its production, and which makes it the more to be regretted that the very obvious *defects of make*, which have so much operated against its more extensive introduction into England, should not be remedied. This might easily be accomplished by the circulation of proper instructions on the subject among the farmers in the cheese-ma-

king districts in *America*. Of these defects, the principal arise from a too hurried manufacture, and insufficient pressing, which, by leaving the whey in the cheese, not only injures the flavor, but renders it more liable to decay, while the same cause makes it open and porous, a fault particularly objectionable. The make of English cheese has never been equal to the demand of this country; and the home supplies have, consequently, been supplemented by large yearly imports of Dutch. There is now, however, every prospect of the required supplies being drawn largely, if not principally, from the United States instead of Holland; the diminishing import from the one, and the rapidly increasing import from the other, already indicating such a change. As regards the form of the cheese, it is desirable that they be made of less breadth and greater depth or thickness, which would both conform them nearly to the appearance of Cheshire, with which they have to compete, and would also fit them better for passing through the ordeal of a long sea voyage."

Wheat flour.—The result of the harvest is now pretty well ascertained, and it may be said with confidence, with regard to wheat, the great staple of England, there has never been a more abundant harvest reaped, while the excellence of the quality is fully equal to the abundance of the yield. Oats rank next, but are below an average. Barley and beans, in consequence of the drouth, were a very short crop. The *abundance* of the wheat crop will, however, compensate for the deficiency in the other, and low rates for that article at least, may be looked for. The reduction in price has already advanced the duty to its highest point, 20 shillings per qr., and at which it is likely to remain through the winter, so that the stock of United States flour held in England, and which in Liverpool alone amounts to 140,000 barrels, must remain in bond till next summer at least, with the exception of what may be required for export. The result, so far, of this season's importation from Canada, shows that the object contemplated by Peel's corn-bill of last year has been fully secured, *in drawing to the river St. Lawrence a considerable portion of the produce of the Western States of America*. A late return shows that the exports from Canada, up to August this season, were 307,000 barrels flour, 237,000 bushels wheat—the exports to the same period of last season having been 50,000 barrels flour, and 15,000 bushels wheat.

Agricultural College.—An Agricultural College is about to be opened at Leopardstown, near Dublin. The farm consists of 200 Irish acres of land, of medium quality. The terms for pupils in the Agricultural School will be £15 per annum, for which they will receive a suitable education; they will be engaged one-half of each day at farm-work, under the superintendence of the best practical and scientific agriculturist that can be obtained, and during the other half in the school, over which a teacher of like ability will preside.

Comparative advantages of Oxen and Horses in farm work.—We find in the Journal of the Royal Agricultural Society, an interesting and well written article on this subject, by James Cowie, from which we gather the following items. Mr. Cowie's oxen are put to work somewhat older than horses, and he thinks they are not at the outset so able for steady work; they cannot be depended on before they are four years old. His oxen are principally of the Angus and Aberdeenshire breeds. The peculiarities in their figure are, a small head, deep chest, round body and short legs. The largest sizes, although frequently selected for work, are not considered the most proper. His oxen average about 800 lbs., the four quarters, when fattened. When much heavier, it is found they want activity and endurance, and their feet, from the additional weight, are more apt to give way. In regard to the work performed relatively by horses and oxen, Mr. C. says that except in frost, when land cannot be plowed, the amount and value of the work performed by each are equal. He works his oxen 10 hours a day, as steadily all the year over, except in frost, as horses, and they keep in perfectly good condition. In regard to the relative speed of oxen, Mr. C. says—"we often see oxen going very slow and sluggardly at work. When well trained, and of a proper breed and size, they will step out as well and as fast as horses—mine do so. At a late plowing match in the district, where upwards of 70 plows started, my ox-team was the second off the field."

In regard to improvements in husbandry, Mr. Cowie gives the following striking example. He says—"The farm which I occupy has been tenanted by my ancestors for many generations. At the Revolution, my great grandfather, and his son, for many years after that, employed 12 working horses, and 28 working oxen, one-half of each set being yoked to one plow. I now work the same land to better purpose, I presume, with six horses and two oxen."

Indian Corn in England.—In the New Farmer's Journal, a correspondent who signs himself "A Man of Kent," states that ever since 1829, he has succeeded in growing Indian corn, and having it come to maturity. The kind is Cobbett's yellow, or what is called here, Canada Yellow or Yellow Flint. The writer says—"I am sure that quantity for quantity, corn is, as food for horses, equal to beans, without possessing their heating property; for pigs and poultry, superior to the very best barley; for sheep, very superior to oats; and for bullocks, better, I think, than any thing, oil cake excepted." Green corn for the table, he recommends highly; but hopes the people of England will never be obliged to resort to the use of corn for bread. Corn, as a general crop, can never be grown in England; the low temperature of their summer forbids it.

Advantage of keeping manure covered.—An experiment conducted by the President of an Agricultural Society in England, shows that manure which was kept covered by nine inches in depth with earth, so that no evaporation escaped, produced four burhels more of grain per acre, than the same quantity and kind of manure, applied to the same extent and quantity of land, but which had lain from the 13th Jan. to the 4th of April, exposed to the weather.

Great crop of Barley.—An English paper says that John Stokes, Esq. of Cuffern, has produced this year, from half an acre of ground, 45 Winchester bushels of clean barley, fit for the market.

Parisian Statistics.—The consumption of butchers' meat in Paris during the month of September last, comprised 5,759 oxen, 1,577 cows, 5,861 calves, 34,707 sheep; being a diminution, compared with the month of September, 1843, of 222 oxen, 1,143 calves, and 3,356 sheep. The consumption of butchers' meat in Paris during the month of September, 1843, exhibited a similar proportionate reduction compared with the month of September, 1842, so that it would appear that the consumption of butcher's meat in Paris is gradually diminishing.

Bees.—A bee hive, which was opened by Swammer dam, was found to contain 1 queen bee, 33 males or drones, 5,635 working bees, 45 eggs, and 150 worms. Total population, 5,864; for whose accommodation there were 3,392 wax cells for the use of the working bees, 62 cells containing bees' bread, and 236 cells in which honey had been deposited; in all, 3,620 cells. From this observation it may be presumed the hives contain 5,000 to 6,000 inhabitants, amongst which there is only one female, viz., the queen bee, and from 3,000 to 4,000 cells.

Horticultural Curiosity.—A curious device was exhibited at the Bristol Horticultural Society last week. It was a donkey carrying an old woman to market, the animal covered with a kind of grass, the exact color of a donkey's coat, and the rider composed entirely of vegetables.

Sowing Wheat.—August, 1843, one quarter of an acre of a very gravelly soil—in a hot summer produced but little—was, after peas, plowed 4 times in the same day with six horses, 15 inches deep; dibbled with wheat in October, produced at the rate of 5 bushels 3 pecks per per acre more than the land by the side of it, plowed in the usual way for wheat 5 inches deep. Straw 3 3-4 cwt. per acre more than the adjoining land of the same measure and same soil.

The Best Russian Horses.—The Orloff breed—the most renowned in Russia, especially the Orloff trotters—are very large in size, and from the age of one year, are

harnessed to light sledges, and never allowed to break trot; so that an Orloff trotter has, perhaps, never galloped or cantered since he was foaled; and thus, having lost all instinct of the pace, if a wolf were at his heels, would still *trot* away from it. When put to their utmost speed, these horses therefore trot at an astonishing pace.

HINTS TO LOVERS OF FLOWERS.—A most beautiful and easily attained show of evergreens in winter may be had by a very simple plan, which has been found to answer remarkably well on a small scale. If geranium branches are taken from healthy and luxuriant trees just before the winter sets in, cut as for slips, and immersed in soap and water, they will, after drooping for a few days, shed their leaves, put forth fresh ones, and continue in the finest vigor all the winter. By placing a number of bottles thus filled in flower baskets, with moss to conceal the bottles, a show of evergreens is easily ensured for a whole season. They require no fresh water.

NEW BOOKS.

DOWNING'S LANDSCAPE GARDENING.—We hail with pleasure the new edition of this elegant work, which has just been issued by Wiley & Putnam, New-York. Such had been the demand for this work, that not a copy of the first edition had been for sale for months past; and we anticipate a much more rapid sale for this new edition, a large part of the first portion of which has been re-written, much new matter added, the whole revised, and newly and more copiously illustrated from examples now existing in our own country. The illustrations are admirable, both in the drawing and engraving, and the work is, altogether, got up in a style to compare well with the best English books. This Treatise is justly regarded as an honor to the country, and it has already effected an immense good by inspiring a correct taste for rural improvement, the evidences of which are not unfrequent throughout the land.

"THE FRUITS AND FRUIT TREES OF AMERICA."—This new work, by A. J. DOWNING, Esq., advertised to have appeared some time since, has been delayed, as we are informed by the Author, that he might have the benefits of the fruits of the present season to enable him to test additional varieties and to settle some doubtful points. It will be issued during the coming winter.

AMERICAN POULTERER'S COMPANION: a Practical Treatise on Breeding, Rearing, Fattening, and General Management of the various Species of Domestic Poultry, with Illustrations and Portraits of Fowls, taken from Life: by C. N. BEMENT. This work, the most complete of the kind yet published in this country, has just been issued by SAXTON & MILES, 205 Broadway, New-York. It embraces 380 pages, 18 mo., is beautifully printed, and contains many engravings illustrating the characteristics of the different species and varieties, and exhibiting the most approved plans of buildings and other necessary appurtenances to the successful management of poultry. As a work of *practical* value, and containing much information on all branches of the subject to which it relates, we have no doubt it will be eagerly sought, and highly prized by the American public. When we have had an opportunity to examine it more minutely, we shall give it a more extended notice.

JOHNSTON'S LECTURES ON THE APPLICATIONS OF CHEMISTRY AND GEOLOGY TO AGRICULTURE.—Among the various attempts which have been made to show the practical relation of the sciences of Chemistry and Geology to Agriculture, we have no knowledge of any which have been more successful than those of PROFESSOR JOHNSTON. The "Lectures," here mentioned, are particularly valuable in this respect. They are written in an exceedingly interesting and perspicuous style, no scientific terms being used, or philosophic principles referred to, that are not fully explained. Professor J. informs us, in the preface, that the "first Part of the Lectures was addressed to a society of practical agriculturists, most of whom possessed no knowledge whatever of scientific Chemistry or Geology. They commence, therefore, with the discussion of those elementary principles which are necessary to a proper understanding of each branch of the subject." "For the sake of clearness," says Professor J., "I have, in the following pages, divided the subject into four parts—the study of each preceding part preparing the way for a complete understanding of those which follow. Thus part I, is devoted to the *organic elements* and parts of plants, the nature and sources of these elements, and to an explanation of the mode in which they become converted into the substance of plants;—Part II, to the *inorganic elements* of plants, comprehending the study of the soils from which these elements are derived, and the general relations of geology to agriculture;—Part III, to the various methods, mechanical and chemical, by which the soil may be improved, and especially *to the nature of manures*, by which soils are made more productive, and the amount of vegetable produce increased;—and Part IV., to the *results of vegetation*, to the kind and order of the food produced under different circumstances, and its relations to the growth and feeding of cattle, and to the amount and quality of dairy produce."

These lectures have been republished in this country, by Messrs. WILEY & PUTNAM, New-York. They may be had, neatly bound in one volume, for $1,25—or bound in two volumes, for $1,50.

SMUT IN GRAIN.

It has been often stated that this is a kind of fungus, the seeds or sporules of which are so exceedingly minute that they are taken up and ascend through the pores or sap-vessels of the plant. Professor Johnston lately spoke upon this subject in a lecture before the Agricultural Chemistry Association. He observed that the smut had received the name of *Uredo segetum*. That these puff-balls or sporules were so minute that it would take 2800 of them to cover an inch. There was no doubt that they ascended through the plant—by examination, it could be seen where they had come up—the tubes of the stalk were filled with black matter that had come through the vessels, affecting first the straw, and then getting into the ear, where it spread itself all over. After passing through the stalk the smut fixed itself under the root of the flower, which it rendered barren, and as the grain approached perfection, the puff-balls became ripe and burst, showing black dust of very minute particles—so minute that it took about 1,100,000 of them to lie across a single inch. He then went on to speak of the manner in which smut was propagated. It was in the first place sown along with the seed. Very often it was so minute that thousands of the particles might attach to a single grain, and yet not be visible to the naked eye. Oats are more subject to smut than other grain. Rye is never attacked by it, and wheat seldom. Grasses are sometimes attacked by it and much injured.

Certain substances have been employed for the prevention of smut. The substances used are sulphate of copper, or blue vitriol, urine, common salt, wood ashes, lime-water and sometimes arsenic. The application of these substances to the seed grain, destroys the black dust or the spores of the fungus, and in addition to this they make the grain grow better. Professor Johnston mentions an instance where a large field of oats was divided into several parts, and the seed doctored in different ways —some not being doctored at all—other portions being dressed with guano—and others steeped in the following composition:

Phosphate of Soda, Sulphate of Magnesia, Nitrate of Potash, Common Salt, Sal-Ammoniac, or Sulphate of Ammonia. One pound of each in ten gallons of water, to steep 300 pounds of seeds, the moist seed to be dried with gypsum or quick lime.

On looking at that field it was found that the grain to which nothing had been done, was smutted, that which was dressed with guano was also smutted, as was likewise a portion where Campbell's steep had been used; but there were only two or three stalks affected with smut in the grain steeped in the composition above mentioned.

The smut which is sometimes found in wheat, called *dust brand*, or *pepper brand*, is supposed by some to be a different species of *uredo* from that above spoken of. It is sometimes called *uredo fœtida*. But the same remedies against its attacks are used with equal effect.

MR. FRENCH'S FARM, BRAINTREE, MASS.

During our recent visit to Massachusetts, we took notes in reference to several farms, which we had the pleasure of visiting. We have put these notes in form, and shall give them to our readers in the present and future numbers of the Cultivator.

The farm of B. V. FRENCH, Esq., is situated in the town of Braintree, ten miles from Boston. Within the last few years, Mr. French has made great improvements. The farm is naturally wet, and very stoney. It has been divided into small inclosures, and the stones disposed of by putting them into substantial walls. Trenches are dug and filled with small stones for the foundation of the wall. This not only gives a firm basis for the walls, but by a little attention in the arrangement, they serve as drains also. Mr. French has proved, pretty thoroughly, the efficacy of under-draining and subsoil plowing. The benefits of these operations, are obvious and striking. Cold, springy land, with a close subsoil, which was before so wet in the early part of the season that it was impossible to work on it, and which at best only produced a crop of rather inferior hay, is now made to yield good crops of garden vegetables and grain. We were shown a piece of this formerly cold, wet land, where an enormous quantity of stones had been dug out, and the ground afterwards plowed and subsoiled to the depth of fifteen to eighteen inches, that produced last year a crop of carrots of nearly *eight hundred* bushels to the acre. Another piece of four acres, naturally very stony, but not so cold as the former, having a south-eastern aspect, had been thoroughly gone over, and the lot fenced by the stones taken out. It was then subsoiled, and is now appropriated to a nursery. The various kinds of fruit trees thrive remarkably well. The spaces between the trees are cultivated with carrots, and the yield will be a heavy one—not much less than one thousand bushels to the acre. Noticing the great depth to which the carrots penetrated, we tried the soil with a stick and found it very easy to push it down eighteen inches. This land was naturally a hard stoney gravel.

Mr. French uses a good deal of peat muck, as well as mud from the salt marshes, in making manure. It is laid over the cattle yards, thrown into the hog-pens, and made into compost. He obtains the *salt lye* from a soap manufactory. Heaps of peat muck are saturated with this liquid, and found to be a powerful manure.

The principal objects of production with Mr. French, are milk and fruit. He sends a man to Boston with milk every day, and the same man usually finds a market for all the fruit, vegetables, &c.

The cows obtain but a small portion of their support from pastures, but are mostly fed on crops raised for that purpose. They are put in the barn every night, where they are fed with a small quantity of wheat bran or shorts. Carrots, potatoes, or beets, are likewise fed at the rate of half a bushel to each cow per day, during the season of the year when these vegetables are in a proper state for use. Mr. French gives the preference to the carrot, as producing richer milk and giving the cows a better appearance. He raises both the white carrot and the yellow kinds. The white is easiest grown, and yields best, but perhaps is not quite so nutritive. In good weather, the cows are turned during the day into small enclosures, where they have shade and plenty of pure water. They are at all times well fed, and when they get so fat that they are worth more for beef than for milk, they are sold to the butcher.

Mr. French's collection of fruits is extensive. He has upwards of *two hundred* varieties of apples, and about the same number of pears. Among the latter, are most of the choice kinds which have been originated within a few years by Knight, Van Mons, and others in Europe.

Keeping hens in yards—Mr. French showed us a yard where he kept his hens. The yard may contain an eighth of an acre, and has several plum and other fruit trees in it. There is not much grass in the yard. Hens have been kept there for a few years, but they have not done very well. Besides grain, they want grass or something of that kind, and some sort of animal food. The great desire they have to get something as a substitute for grass, was strikingly shown by their having picked off and swallowed every leaf and bud of the trees, so that they were left totally destitute of foliage and nearly dead.

In addition to his farming, Mr. French carries on considerable other business. He has a mill, lately erected near his residence, from which he sells about two hundred bushels of meal, (mostly corn-meal,) per day. It is one of the most neat, convenient and perfect establishments of the kind we have ever seen.

Order and neatness are prominent characteristics in all Mr. French's arrangements and management. Seldom has it been our good fortune to find the motto, "a place for every thing, and every thing in its place," so promptly *lived up to* as here. Every implement wanted on the farm, or in the garden or orchard, is provided. They are all of the most approved kind, and when not in use, are always in the right place.

Mr. French was so kind as to accompany us on a visit to the noted granite quarries, which are in Quincy, on a part of a range of highlands called the Blue hills. A vast quantity of stone has been taken from here within the last twenty years. The first operations, we believe, were commenced by the Bunker Hill Monument Association—the stone of which that noble work is constructed, having been obtained here. A rail-road made for the purpose of conveying the stone from the quarry to tide-water, a distance of three miles, was the first undertaking of this kind commenced in the United States. Soon after its completion, we took our first rail-road ride on it, which we shall never forget. This was in 1823. The granite of which many of our large public buildings were made, the Exchange at New-York, the Custom-house at Boston, &c. was obtained at these quarries. For the custom-house, there were 26 pillars, each 32 feet in length, and four and a half feet in diameter. We were informed by Mr. Willard, the architect and superintendent of the work, that these immense blocks of stone were got out and finished here, carried on a massive frame constructed for the purpose, nearly three miles, to the water, and thence to Boston, without the slightest accident, and without defacing the pillars to the value of a cent. The quarry where these stones were obtained, was not accessible by rail-road, and the transit from the quarry to water navigation, had to be effected by teams—each pillar requiring, when placed on the frame, about fifty oxen to draw it.

The town of Quincy is likewise noted as having been the birth-place and residence of two of the Presidents of the United States—John Adams, and his son John Quincy Adams. Mr. French pointed out to us the dwellings where both of these distinguished men were born. They are simple old fashioned New-England wood houses, and are in so good a state of preservation, that they may stand long enough for several more Presidents to be born in them. The present residence of the Hon. John Quincy Adams, is not far from those just mentioned. This is also an unassuming wood building, of a style which was quite common in this part of the country seventy-five years since.

SALT FOR FRUIT TREES.—A writer in the Boston Cultivator says a pear tree was killed by a quantity of salt having been left in an old flour barrel near the body of the tree. A heavy rain dissolved the salt and forced it into the ground among the roots. The tree soon exhibited signs of blast or decay, and on cutting off and examining the branches, he "found the leaves not only highly impregnated, but encrusted with a visible saline matter." During the summer, the tree died. Too much salt was undoubtedly the cause of the trouble. A small quantity has been recommended to be put round trees for the destruction of insects. The editor of the Boston Cultivator says two quarts is enough for a tree of "middling size."

THE ARK, AND ODD FELLOWS' WESTERN MONTHLY MAGAZINE, devoted to the cause of Odd Fellowship. From what we have seen, we think it a well managed work. It is a neatly printed octavo, published monthly at Columbus, Ohio, by John T. Blain and Alex. E. Glenn. One dollar a year in advance.

MR. COLMAN'S EUROPEAN AGRICULTURE.

The second part of this work has made its appearance. The great difficulty of procuring the information sought, in an exact and authentic form, amidst the embarrassments and inconveniences which surround a stranger, are mentioned as reasons why this portion of the work has been so long delayed. Mr. Colman says he cannot promise his third and fourth numbers at any particular time, but assures us that no unreasonable delay shall be permitted. He has yet to visit Ireland, some of the counties of Scotland, the dairy portions of England, and the flax and hop districts. In the spring he intends to visit the continent, and hopes to be able to return to this country in the autumn.

The first division of the number before us, is devoted to a continuation of remarks on the *Allotment system*. Under this head, many useful facts are given, showing the large amount of sustenance which the soil, under proper management, is capable of yielding—though, as Mr. C. says, it is probable that the "utmost productive capacity of an acre of land, in any crop has not yet been fully determined."

An instance is mentioned where a man had supported himself, wife and son, from two acres of land, for which he paid a rent of $45,60; and in the course of 7 years saved enough from the produce of his two acres to purchase two acres at $144 to $192 per acre. In another case, 6 acres under spade cultivation, is stated to have given an average of 52 bushels of wheat per acre. Another witness brought before the Parliamentary committee, testified that on the estate of Lord Howard, Barbot Hall, Yorkshire, twenty-eight bushels of wheat had been obtained from a quarter of an acre; being at the rate of 112 bushels per acre. Mr. Colman thinks, however, that the accuracy of this statement may be considered doubtful.

At Horsham in Sussex, some seed wheat, brought from Australia, was sown in rows 9 inches apart, and hills 6 inches apart, only one seed in a place. At this rate it took 9¼ lbs. seed per acre—at 63 lbs. per bushel, one bushel of seed would plant more than 6 acres. The yield of this wheat was at the rate of 71 bushels per acre. Some of the straw was 6 feet high.

A laborer, John Harris, in Sussex, produced the following crops from his allotment. "One acre and 12 rods, wheat, 53 bushels—half an acre of oats, 61 bushels —30 rods of barley, 13¼ bushels—20 rods of peas, 4½ bushels—one acre potatoes, 404 bushels—half an acre of turneps, 150 bushels—15 rods carrots, 3½ tons—15 rods mangel-wurtzel, 3 tons. The rest of his land was occupied as green food for his cows, such as cabbages, rye, clover, tares, &c. He kept two cows. He had from 8 to 12 pigs all winter, and they consumed all his potatoes, and his turneps, mangel-wurtzel, and carrots, were given to his cows. He fattened 20 stone, or 960 lbs. pork, which he sold to the butcher. He sold 6 shoats at 3 months old, for stores, and one pig for roasting; he also sold 2 sows in pig for $12,25."

An instance is mentioned where a man in Sussex, John Piper, who occupied four acres, and kept two cows, worked one of the cows in a cart, by which he makes an annual saving of $24. Notwithstanding the cow is worked, "she makes *eight pounds* of butter a week, besides furnishing some milk for the family."

Great pains are taken in all cases to save the manure. Nothing is wasted. The animals are stall-fed, and only turned into a yard a few hours a day for exercise. Brick or stone tanks, well cemented, are sunk near the cow-stables and pig-sties, for the reception of all the liquid manure. "The contents of these tanks, on becoming full, are pumped into a small cart with a sprinkling box attached to it, like that used for watering streets in cities, and distributed over the crops, always with the greatest advantage, and with effects immediately perceptible." All which Mr. Colman saw, convinced him that there is no necessity of impoverishing the soil, but that under the right management, it will keep itself in condition, and be ever improving. The allotment system, though so evidently beneficial to the poorer classes, is strongly opposed by the farmers in general. In relation to the causes of this opposition, it is alleged that the farmers are not willing to lessen the dependance of the laborers on them for support—that the great crops obtained under such nice cultivation, contrasted with those of the farmer, tend to throw the latter into the shade, or by proving what the land is capable of producing, may induce the landlords to raise their rents. Besides, it is said the farmers are unwilling to see the laborers appear in the markets in competition with themselves. Mr. Colman observes, that whether these reasons actually exist or not, the "motives named are but too consistent with the weakness and too often unrestrained selfishness of human nature. Every man certainly has a fair right 'to live,' and the duty of every just man, is to 'let him live.' Blessed be the day, if come it ever should, when every man will learn that his own true prosperity is essentially concerned in the prosperity of his neighbor, and that no gratification on earth, to a good mind, is more delicious than that which is reflected from the happiness of another, to which he has been himself instrumental."

Some of the allotments are managed by men who act in the capacity of school-teachers, and the scholars, who are boys from eight to fourteen years of age, perform the labor of cultivating the crops—working on the farm a given number of hours each day in return for their instruction. The system works well, both for the boys, and the condition and product of the grounds. Yet Mr. Colman feels constrained to add his "strong conviction that the education of the laboring classes is not viewed with favor by those who move in a higher condition of life." "Every approach, therefore," he continues, "in this direction, is likely to be resisted; and this feeling of superiority pervades, with an almost equal intensity, every class in society, above the lowest, from the master of the household to the most menial beneath whom there is any lower depth. Education is the great leveler of all artificial distinctions, and may therefore be well looked upon with jealousy."

QUANTITY OF SEED PER ACRE.—Under this head we find also many useful facts and experiments The English farmers generally practice very thick sowing, and it is the opinion of some very judicious cultivators, that a large portion of the seed may be saved, and quite as large, if not larger crops be obtained, as there are now. Some experiments strongly support this opinion. The practice in England is to sow from 2½ to 3 bushels of wheat per acre. One man has reduced his quantity to only *three pecks* per acre. He nowever, drills and hand-hoes every thing, clover seed excepted. He sows one and a half bushel rye, two bushels of oats, seven pecks barley, and two bushels peas, per acre. In cultivating cabbages, he allows one to three square feet. He has produced 40 bushels wheat, 104 bushels of oats, and 40 bushels barley, to the acre. There is no doubt that by substituting the drill, for the broadcast mode of sowing, a large portion of seed might be saved.

STEEPING SEEDS.—Considerable has been said, during the past year, of a mode of steeping seeds, introduced by Mr. Campbell, of Scotland. Mr. Colman introduces one or two letters from Mr. Campbell, in reference to this subject. The steeps he employs, are sulphate, nitrate, and muriate of ammonia, nitrates of soda and potass, and combinations of these. One experiment given, is in substance, the following. Some earth was dug up 6 feet below the surface, which was totally destitute of organic matter. It was sown with seeds which had been soaked in these solutions, and produced plants with 7 or 8 stems each, while plants from the unprepared seeds produced no more than three stems each. They had not reached maturity when this statement was given, and of course, the relative yield of grain could not be told.

SPADE HUSBANDRY.—This mode of cultivation seems to be extending itself in Great Britain, and under the cheapness of hand labor which there prevails, is found fully remunerating. The principle is the same as that of subsoil plowing. The best tool for the work, is a three pronged fork, 14 inches deep, and 7½ inches wide This works easier than a spade, and pulverizes the ground better. Though, as Mr. Colman observes, spade husbandry cannot be generally introduced into the United States with advantage, yet he says there are some cases in

which it might be found profitable, such as on farms where the poor are kept. In England, no farm is ever connected with a pauper establishment, and some caution is there used, lest those establishments be found too comfortable and attractive. Mr. Colman cites the example of a man in New-England, who from only seven acres of land, sells annually $2,500 worth of produce.

Condition of Laborers.—Mr. Colman says "it is with England a question of tremendous importance, what is to become of the vast accumulations of people, which are continually increasing here at the rate of from seven hundred to a thousand per day. * * * The subject, it appears to me, and perhaps wholly from my being unaccustomed to a condition of things in any degree resembling it, is daily assuming a fearful aspect; I do not mean of danger to the government, for the government seems never to have been stronger, but fearful in its bearings upon the public peace, the public morals, the security of property, and the state of crime." Mr. C. does not pretend to offer a remedy for this state of things, but seems to think the allotment system the best which has yet been devised, as it is, at all events, capable of improving, to some extent, the laborer's condition.

Progress of Agriculture.—Under this head, Mr. Colman gives an interesting description of the great improvements which have been made and are still going forward in England, by means of draining, irrigation, &c. Of the *live stock*, he speaks in the highest terms, but does not go minutely into this subject, intending to take it up by itself hereafter. He speaks not of the cattle as seen at the cattle shows, but as they are seen every Monday in the Smithfield market, and at the other smaller markets and fairs in various parts of the kingdom. He says—"here are cattle and sheep of several distinct breeds, and all of remarkable excellence of their kind; I do not say perfect, for that, in almost all cases, would be assuming too much, but leaving very little to be desired beyond what has been attained. Their condition and form, their symmetry, their fatness, are admirable; and each breed is seen retaining its distinct properties; and what is most remarkable, showing how much can be done by human art and skill, in improving the animal form and condition, and bringing it to a desired model."

Application of Steam to Agriculture.—The application of steam to the plow, so far as Mr. Colman has heard, has not been attended with much success. Steam engines are extensively used in some sections, for threshing grain. In the Lothians of Scotland, it is said that the use of steam power for this and other purposes, saves one quarter of the horse power required on the farm. A very important item, as the keeping of horse teams is the greatest single source of expense to the British farmer. A six horse steam power, usually threshes from 30 to 40 bushels of grain per hour. Mr. C. suggests that in the prairie districts of our western country, wherever coal can be had, steam power might be advantageously used for many farm purposes.

A very important use of steam power in Britain, is the conveying of live stock to market by means of steamboats and rail-roads. Cattle are brought in immense numbers to Smithfield market by these conveyances, without loss of condition—sometimes the distance of seven hundred miles. Mr. C. thinks no parties have suffered injury from rail-roads. Contrary as it may be to all theories, the farmer near market is not injured, though the distant one is largely benefitted.

The Increase of Agricultural Products in Britain, is shown in a very striking light. The average importation of wheat into England from 1801 to 1810, when the population was set down at 17,442,911, would have given a fraction over one peck to each person. From 1811 to 1820, when the population was 19,870,589, the quantity imported would have given less than a gallon and a half to each person. From 1831 to 1835, the population was 25,000,000, and the quantity imported would have given to each person one gallon. Taking the three years 1833-4-5, the importation would have allowed only one pint and one fifth to each consumer. This will give some idea of the immense production and resources of that little island. Under a fast increasing population, as before mentioned, the dependance on foreign supply, has been constantly growing less.

Among the means of improvement, Mr. Colman remarks that the Royal Agricultural Society is an efficient organ. It was instituted in 1837. It has begun the establishment of an agricultural library and museum, the object of which is to exhibit specimens of agricultural productions which are capable of preservation, seeds, plants, grasses, samples of wool, mineral manures, models and drawings of implements, &c. &c. Mr. Colman remarks that he has often urged the establishment of agricultural museums in the United States, especially in the capitals of the States, where the different legislatures assemble. The suggestion is a valuable one. Cannot our New-York State Ag. Society profit by it?

The management of the Royal Ag. Society at its exhibitions, is spoken of as admirable in many respects. Mr. C. says—"every possible effort is made to secure an impartial decision among the competitors; for besides that they are not suffered by their presence to influence the examiners, the examiners themselves are selected from among persons as far as possible disinterested, and not likely to be influenced. They are chosen, likewise, with a special reference to their characters and qualifications, to the nature of the subjects submitted, and every pains is taken in this way, to secure the greatest aptness and talents. The name of the competitor is not given if it can be avoided, but only the number of the article presented. The rules of admission and competition, are stringent and absolute, and no exceptions are on any account allowed."

The Highland Agricultural Society of Scotland, and the Royal Ag. Society of Ireland, are both spoken of as excellent institutions, similar in their objects and management to the Royal Ag. Society of England.

Model Farms.—Mr. Colman notices some of these. He has visited that at Glasnevin, near Dublin, and furnishes some highly interesting particulars in regard to it. In connexion with this establishment there is also an agricultural school, where young men receive such an education, theoretical and practical, as fits them to pursue the occupation of farming to the best advantage. The young men work in the field about 6 hours a day. Mr. C. had the gratification of listening to an examination of fourteen of these young men, brought out of the field from their labor, and declares that "it was eminently successful, and in the highest degree creditable both to master and pupil." The products of this model farm, as given by the superintendant and teacher, are quite remarkable. Seven hundred and twenty bushels of potatoes per acre, are given as an average crop. The superintendent states that the largest crop he ever obtained, was in a field where the sets were three feet apart each way. Medium sized potatoes, planted whole, are preferred to cut ones. The experiment had been made, and the difference between whole potatoes and cuttings was marked and obvious in favor of the former. The cattle on the farm are *soiled*. Italian rye grass is mentioned as one of the best articles for feeding. It is cut four times in a season, yielding at each cutting a good crop. Lucerne is sometimes cut five times. The Scotch potatoe oat, and the Hopetown oat, are the varieties of this grain here raised. They yield an average of 80 bushels per acre, and weigh about 44 lbs. per bushel.

The typographical execution of the second Part of Mr. Colman's work, is very perfect, and though the matter is somewhat miscellaneous, it is of a nature calculated to interest not only the agricultural, but general reader. The style is exceedingly chaste and agreeable, and a most beautiful moral tone pervades the whole. His remarks on the condition of the laboring classes in England, show how vastly superior are the advantages of that class in this country.

American Masonic Register.—This work has just commenced its sixth volume. The form has been changed from a quarto to a royal octavo of sixteen pages, each number. It is neatly printed, and is well filled with matter which we doubt not is highly interesting to the "brethren of the mystic tie." Published monthly, at Albany, by L. G. Hoffman. One dollar a year in advance

PRODUCTS OF THE YEAR 1844.

WHEAT.—This great staple product, has yielded variously in different sections of the country; but in a territory embracing so many degrees of latitude, and possessing so varied a climate, it can hardly be expected that the same crop will succeed equally well in all parts, the same season. In Maine, New-Hampshire, and Vermont, Spring-wheat is generally cultivated, as it is considered better adapted to the climate than the winter wheat. The worm in the head (*Cecidomyia tritici,*) improperly called weevil, has prevailed there to such an extent for several years, that this crop has been considered quite uncertain. The insect has, however, been less destructive during the two last years, and from all the accounts we have seen, the yield of wheat in that section has been generally good the past season. In the eastern part of this State, (New-York,) the insect above mentioned injured the winter wheat to some extent, but in the Genesee Valley and the great wheat districts of the State, the crop was good. In northern Indiana, northern Illinois, Michigan and Wisconsin, the *fly* (*Cecidomyia destructor,*) did much injury to the crop—in many instances occasioning almost a total failure—and we are informed that this enemy has already made its appearance in great force in the early fall-sown wheat. In the southerly part of Ohio, Indiana and Illinois, wheat in many cases did not fill well. The growth of straw was very great, but the prevalence of warm, wet weather occasioned much of it to fall down or rust. This was quite generally the case on rich land. On the uplands of not so rich a quality, the crop was better and the grain plumper and heavier. Taking the western States together, however, we think the wheat crop did not give an average yield per acre, though from the large quantity of ground sown, the aggregate product was not probably less than in any previous year. So of the country at large; there was, probably, as much wheat produced the past season as in any former one.

INDIAN CORN.—Although this crop did not appear so promising in the fore part of the season, owing to the coldness and backwardness of the spring, yet the mild and favorable weather of the latter part of the summer so well matured the plant, that the yield has generally been an uncommonly good one. In the northern and eastern States, as well as in Canada, we feel justified in stating, that so good a crop has not been generally got for several years. This is a crop of very great consequence to all sections of the country, and for *home consumption,* is undoubtedly of more value, every thing considered, than any other kind of grain. Well has it been said by a distinguished agricultural writer, that it is "*meal, meadow, and manure.*" The grain affords a most wholesome and nutritive food for man and beast, the stalk and leaf afford, when properly cured, a most excellent fodder for cattle; in fact, from no grain crop can so great an amount of sustenance be raised per acre, and from none can so good a return be given to the land in the shape of manure.

OATS.—This, as a grain crop, may be considered as entitled to rank next to the preceding in importance. As food for horses, especially those which are employed in quick work, oats are preferable to any other grain, and constitute the most convenient food which can be given. The yield this year is generally good, in most sections.

RYE AND BARLEY.—These are less cultivated than any other grain. In some neighborhoods, barley might be cultivated more largely to good advantage. On soils to which it is well adapted, it will produce from forty to fifty bushels per acre. The straw is excellent fodder for sheep and cattle.

HAY.—In the easterly part of Massachusetts, and some other sections, we have complaints that the crop of hay was much cut off by drouth, but taking the country together, we think the crop was at least an average one, though the quality may not be so good.

POTATOES.—This crop has suffered much in many districts from the epidemic which seems to be overspreading this country, as well as the old world. Considerable alarm is justly excited from the prevalence of this disease. To the northern portion of this country, as well as to a large portion of Europe, the potatoe crop cannot be considered of less value than any other. It has become an important article of human sustenance among all classes. By the rich it is prized as a wholesome and palatable article of diet, while to the poor it is indispensible—affording more sustenance in proportion to the expense of production, or to a given extent of land, than any other crop. Where it has not been affected by disease, the crop of the past season, has been generally a good one.

FRUIT.—We do not recollect any year in which the different fruits have been so abundant and of so fine a quality, as the last. The various stone fruits, particularly plums, have been uncommonly plenty and good. This may be in a great degree owing to the disappearence of the curculio, which for several years has been so deadly an enemy to this description of fruits. Apples are generally plenty. From Maine and New-Hampshire, we hear that best kinds are almost a drug. We should suppose they might be exported to good advantage. We believe the apples of that region are generally found to keep better than most others, and are well liked in the southern markets. What better article can the farmers of Maine turn their attention to, than good winter apples for exportation?

THE POTATOE PLAGUE.

The disease which has largely affected the potatoe crop in Europe and America during the last two or three years, (though in this country chiefly during the *last* season,) is exciting anxious inquiry among the community, and close observation among scientific men. Mr. Teschmacher of Boston has published the result of his observations; and we now add the opinions of another gentleman of New-England, Prof. CHARLES T. JACKSON, who left the following hasty note in reply to inquiries made while he was passing through this city:

Albany, Sept. 23, 1844.

DEAR SIR—While passing through the western part of New-York, my attention was called to a peculiar disease, which affects the potatoe plant this year, and having heard something about it in Michigan and Wisconsin, I was anxious to examine the first potatoe field where the disease could be witnessed. This I had an opportunity of doing in or near the village of Trenton, N. Y., where a very intelligent farmer exhibited to me the ravages which had been effected by it in his fields. The disease was first indicated by numerous small drops of honey dew on the stems of the potatoe plant, about a month ago. Then followed a rust, with death of the stems, and the disease was found to extend along the bark to the potatoe tuber, which is a subterranean stem, and not a root as some have supposed. I observed that the potatoe began to rot next to the skin, and the disease penetrated inward in many cases to the depth of half an inch. No fruit or potatoe balls formed on any of the diseased plants, and the vines looked parched and blackened as if they had been killed by frost.

I learned that where lime had been used in the proportion of about a table spoonful to the hill, that there no disease has appeared. Also, that after vines had become affected, the best remedy was to cut the stems off close to the ground. The good farmer in Trenton said that his crop had suffered very severely; and that where he had formerly raised average crops of 300 bushels to the acre, he shall this year realize but 50 bushels. The German population who depend on digging potatoes on shares, will severely suffer this season. I would invite you, sir, to inquire into the origin of the honey dew. I find various theories offered, but none of them are satisfactory. I have heard the disease of the potatoe ascribed to the age of the plant, reproduced continually from tubers, but this cannot be the fact, for no such distinction can be found in the potatoes of various ages and kinds. The Yellow, Red, Pink Eye and Chenangoes, have all equally suffered this year. No peculiarities of soils or of manures, appear to afford any explanation, for the plant appears to have been affected in one as much as another.

The potatoe crop in Wisconsin, as I learned from a farmer just from there, has suffered severely, as have those of Illinois and Michigan. C. T. JACKSON

THE PEA AND THE BUG.

A gentleman in Pennsylvania sent some peas, supposed to be wild, to J. S. SKINNER, Esq., who forwarded them to Dr. G. B. SMITH of Baltimore, for inspection. Dr. S., in a letter to Mr. Skinner, says:—"I have no doubt the pea you kindly sent me, is a variety of the common garden pea, acclimated, if it be acclimated, accidentally, by the seed being distributed by birds, &c. The bug is the genuine 'pea-bug,' *Bruchus pisi*, of Linnæus, and is fully described by Harris, beginning at the bottom of page 54 of his Treatise on Insects. I shall have the peas carefully raised next spring by some careful hand. Its appearance is the same every way, as that of the common brown pea that we used to have in the north when I was a boy. It is a tolerable good pea, nothing very extraordinary one way or the other.

"You hatched the bugs by wearing the peas in your breeches pocket. You can hatch the bugs out of any peas that were grown in this country, in the same way. We call it a bug—it is a *weevil;* what we call weevils, however, are not weevils—look into Harris. Is it not curious, that the pea-bug or pea weevil, does not affect peas grown in Europe? They have not that insect there. It does not generally hurt the germinating principle of the pea."

SALT AS A FERTILIZER.

Statements in regard to the action of salt, when applied to the soil, are quite various, and sometimes contradictory. Some accounts would lead us to suppose that its operation is highly beneficial, while others seem to show that its effects have been of an opposite nature.

In a paper read before the N. Y. Farmer's Club, by F. MORTIMER BUTLER, Esq., a copy of which we find in the Farmer and Mechanic, is some interesting suggestions which tend to reconcile former discrepancies, and perhaps show the true theory on this subject.

Mr. Butler entertains the idea, that for salt to act beneficially, it is necessary that it should be combined with lime, or calcareous earth—that "whenever salt and lime have been used together, the effect has been good: while on the other hand, where either is used alone, there is need of some other governing material, or the effect is not good." Mr. Butler supports this conclusion by reasoning on the chemical properties of salt and lime—by reference to several writers who speak of the beneficial effects of the two substances when mixed together—and by some facts which have fallen under his own observation. From an investigation of this subject, he was prompted "to use salt upon a field which had been rendered caustic by an injudicious application of lime. Buckwheat, sown upon this field, had its roots so scorched that the three acres yielded but four bushels of seed." Grass seeds were sown three several times on the field, but, he observes, "did not take well, excepting in one spot, where a single load of yard manure had been strewn; this governed the lime; the Timothy grass came in, and grew full five feet high."

"At this period," (says Mr. Butler,) "coming into charge of the field, I sowed it with about one bushel of fine salt to the acre; in less than two weeks time the clover and timothy came in plentifully, and did well, field pastured."

In conclusion, Mr. Butler says—"the agricultural facts that have come to my knowledge have shown me, that salt has succeeded best upon lands naturally calcareous, lands previously limed, or upon lands limed at the time of its application. Salt, even when accompanied with lime or the carbonate of lime, must not be depended upon for a crop in the absence of a due supply of organic matter. Salt is but a corrective when decomposed in the earth, it then acts as an alkali, or in other words, the beneficial results that follow its decomposition, depend upon the action that the liberated alkali (soda) exercises upon the organic matter of the soil."

Envy is a turnkey by birth, and an executioner by profession.

NATURE OF FOOD, AND THE RELATIVE VALUE OF VEGETABLES AS FOOD.

It seems to be generally conceded at the present time, that the principal value of any food for the purpose of nutrition, is depending on the azote or nitrogen it contains. This, Prof. Liebig, Mr. Madden, Prof. Johnston, and others, in the main agree on this point, as do Boussingault and Bechsteim. Prof. Liebig says, "the substances of which the food of man is composed, may be divided into two classes; into *nitrogenized* and *non-nitrogenized*. The former are capable of conversion into blood, the latter incapable of this transformation. The former may be called the *elements of nutrition*, the latter, *elements of respiration*." Parts of the former are derived from vegetables, and are as follows: vegetable fibrine, vegetable albumen, and vegetable casine; to these are to be added animal flesh, and animal blood. Parts of the latter, or the elements of respiration, are derived from both animals and vegetables, and are as follows: fat, starch, gum, cane sugar, grape sugar, sugar of milk, and some few other products. Liebig has demonstrated that the nitrogenized constituents of vegetable food, have a composition identical with that of the constituents of the blood; and that no nitrogenized compound, the composition of which is different from fibrine, albumen, and caseine, can support the vital process of animals. As a matter of practical utility to every farmer who keeps animals, we give from Boussingault, the following table, exhibiting the relative value of different kinds of food calculated on the amount of nitrogen they contain, or in other words, on the quantity of vegetable fibrine, albumen, and caseine they will furnish to the circulation.

Article.	Am't per cent of solid matter.	Am't per cent of nitrogen.	Val. compar'd with hay as 100.
Hay from Red clover in flower,	83.4	1.76	60
Hay of Vetches,	89.	1.41	74
Lucern Hay,	83.4	1.35	75
Common Hay,	88.8	1.04	100
Green Clover,		.50	208
Potatoes,	7.7	.37	281
Green Lucerne,		.30	347
Carrot,	12.4	.30	
Wheat Straw,	80.7	.20	520
Barley Straw,	89.	.20	
Oat Straw,	79.	.19	574
Rye Straw,	87.8	.17	611
Turneps,	8.2	.17	612
Beans,	92.5	5.11	20
Vetches,	85.4	4.37	24
Kidney Beans,	95.	4.08	25
Lentils,	91.	4.00	26
Yellow Peas,	83.3	3.40	31
Wheat Flour,	87.7	2.27	46
Wheat Grain,	89.5	2.13	49
Rye,	89.	2.04	51
Oats,	87.6	1.96	54
Barley Flour,	87.	1.90	55
Barley Grain,	86.8	1.76	59

In this table Boussingault has taken good common hay at 100 as the standard. Thus 60 lbs. of good hay from red clover in flower, is equal in nutriment to 100 lbs. of common hay, 281 of potatoes, or 520 of wheat or barley straw. The leguminous plants, such as the beans, vetches, lentils and peas, afford the most nitrogen, and every farmer knows they rank deservedly high in the scale of nutrition; still, as they are destitute, or nearly so, of the phosphates required for the formation of bone, experience proves they are the most useful when fed in connection with some of the cerealia, or grains. We believe that most farmers will find that their experience in feeding animals, agrees very well with the estimates of the table. Thus in soiling, 208 lbs. of green clover, or 347 of green lucerne will be found equal to 100 lbs. of hay, a result which few will doubt who have made experiments in this mode of feeding. 46 lbs. of wheat flour are equal in nutriment to 281 of potatoes; but the animal would fare better on the potatoes than the flour, as there would be more bulk for the proper distention of the stomach.

THE GAVEL, DEVOVED TO ODD FELLOWSHIP AND GENERAL LITERATURE. Three numbers of this work have been issued. It is a well filled octavo of twenty-eight pages. Edited by Rev. C. C. Burr. Published monthly at Albany, by John Tanner, at one dollar a year in advance.

DISEASE IN POTATOES.

We see by the N. E. Farmer that Mr. Teschemacher continues his experiments with a view to ascertain the cause of the potatoe-malady. We have before stated that he has discovered a fungus attached to the potatoe. He is now of the opinion that the fungus is the cause of the disease. His reasons for this opinion are, that "the fungus appears on the skin of the potatoe, and can be traced by its dark color penetrating from the outside by degrees into the sound inside, the outside fungus developing itself first, and producing slime and rottenness, while the inside yet remains firm and sound. If the fungus resulted from the potatoes first becoming rotten and thus forming favorable circumstances for its vegetation, then the presumption is that we should sometimes, although perhaps rarely, find parts of the potatoe rotten without the fungus, which, I, at least, have not seen." Mr. T. observes that he has often seen heaps of rotten potatoes, without having noticed this peculiar fungus, which cannot be mistaken on account of its peculiar smell. He thinks if it was a disease merely affecting the rotten potatoe, it would long ago have been observed. In regard to the propagation of this fungus, Mr. Teschmacher is induced to think, from the fact that the tops of potatoes have generally died down and thus indicated the disease, that it has been propagated by the seeds or spores floating in the atmosphere and attaching themselves to the stalk of the potatoe, on that vegetating, and extending downward to the point of junction with the tuber, there producing decay and the death of the upper part of the vegetable, and afterwards the decomposition of the tuber.

In regard to the idea that *insects* have caused the defect in potatoes, Mr. Teschmacher observes, first, that the worms which have been found in them "are the same which are found in all rotten potatoes from whatever cause the decay may arise," and second that "the potatoe decays previous to the worms appearing, for the worms are never found in the sound part of the potatoe eating their way in or depositing their eggs, and it is only in the most rotten part that the worms exist, after the fungus has caused this decay."

Honey Dew.—We would call attention to the remarks of Dr. Jackson and Mr. Boyd, in this number, relative to the defect in potatoes having been occasioned by "honey dew." The circumstance mentioned by Mr. Boyd, of the potatoes, over which a carpet was spread, remaining green and healthy, while the remainder of the field was destroyed or much injured, is worthy of particular remark.

Respecting the nature or cause of "honey dew," we believe neither philosophers nor agriculturists are entirely agreed. It has been said that this substance is the exudations of insects called *Aphides*, or plant lice. That the sweet substance which is known to exude from these insects has been sometimes called "honey dew," is no doubt a fact; but that the "honey dew" is always derived from the insects, we cannot believe. Fields of rye and other grain, are sometimes struck with the "honey dew," when no signs of insects can be discovered.

Several theories have formerly prevailed on this subject, but so far as we are acquainted, the most generally received one at the present time is, that a peculiar state of the atmosphere occasions the bursting of the sap-vessels of the plant, by which the sap is exuded to the outside of the stalk and leaf. The sap there becoming acrid together with the derangement in the functions of the plant, is supposed to occasion the *blight* or *rust* in grain. And hence the prevalent idea that a "honey dew" always precedes blight.

We are not prepared to vouch for the correctness of the bursting of sap vessels, &c.—our own opinion is that the matter is not yet fully understood, and we would recommend continued investigation and observation, and have no doubt additional light will be obtained.

The communication of the Rev. Mr. Abbott, in a late number of the N. E. Farmer, seems to support the theory mentioned by Dr. Jackson and Mr. Boyd. Mr. Abbott thinks that the wet and warm weather produced an overflow of sap. He found the stalks and leaves of oats were burst open, and a gummy substance had oozed out. He thinks a similar effect was produced on the potatoes, and that the disease which has affected them is "similar to rust or blight in grain."

Since writing the above we have met with the following explanation of *mildew* and *honey-dew*, in a report of a lecture delivered by Mr. Heywood before a Farmer's Club in England:—"The former he stated to be caused by the rapid evaporation of water from the leaves of plants after a wet spring, when the salts the water contained were left on the surface of such plants as were already nearly matured, while others which were in a growing state, appropriated them to their uses; hence this effect on late sweedes and not on early ones. Honey-dew was caused by an excess of carbon in the plant, which could only occur in dry weather, when the other ingredients could not be furnished for it to combine with."

COMPOUND FOR FATTENING CATTLE.

Flax-seed and oil-cake have long been considered very valuable for fattening cattle. The English farmers prize these articles highly, and great quantities are imported and used in the British Islands. Oil-cake is even carried from this country to fatten English beef. One great advantage which the English farmer thinks he derives from the use of it, is the improved quantity of the manure, and this is considered of such consequence as to balance a large portion of the expense of the cake. Flax-seed or linseed *oil*, has likewise been sometimes used, mixed with bran, &c., for fattening animals, and the effect has been a very rapid gain. We have occasionally used flax-seed for cattle with good advantage, by boiling it and mixing with meal, cut hay, &c. We recollect the practice of one man in particular, who, more than twenty years ago, was considered to have great success in fattening cattle. He boiled a quantity of ground flax-seed, or instead of that, pulverized oil-cake, with potatoes, and scalded in meal, (either from barley or corn,) in such quantity that when the mixture was cold it could be cut out in pieces, and in that shape was given to the cattle while they were in their stalls.

In the third volume of the American Farmer, is an article by Nathan Landon, of Litchfield, Conn., on the subject of feeding cattle with cut straw, oil-cake and flax-seed. He says he fattened an ox and a three year old heifer, with less expense, even, than that of common keeping, by the following process. He says—"I boiled about two quarts of flax-seed and sprinkled on to cut straw, which had been previously scalded and seasoned with salt, together with some oil-cake and oat-meal, working them together in a tub with a short pitch fork, till the whole became an oily mush. I fattened the heifer first—she was of ordinary size, and in good order to winter. I gave her about three pecks, [of the mixture] which she ate voraciously, and in the course of four days, when the seed was gone, she was visibly altered. I fed her regularly in that way about two months, in which time she had eaten about one bushel of boiled flax-seed, with the other ingredients in proportion,—when she was butchered, she weigned 584 pounds, 84 pounds of which was tallow. She would not have sold before fattening for more than $16. I sold two quarters of her beef for $18,13. She cost me not more than $10, exclusive of the hay and straw she ate, which was chiefly scalded as above. On the first of February I began with the ox. I fed him about three months, but not altogether so well as I did the heifer. He digested about one pint of boiled flax-seed a day, prepared as above, which I suppose formed half the fat in these two cattle. The ox was short, measured [girthed] seven feet two inches, and when killed, weighed 1082 pounds, and had 182 pounds of tallow. He cost me while fattening, twenty-five cents a day; he had previously cost me thirty-five cents. My nett gain in fattening these two cattle, was more than all I have cleared before in fattening oxen and cows in fifteen years; and this is owing, I think, chiefly to the use of flax-seed. I never fattened cattle that appeared so calm, so hearty, and digested all their food with so much natural ease and regularity as these. I kept my cows in the same way in

the month of March for one-third the expense of hay. It makes excellent milk and butter."

We have lately seen frequent recommendations of an article used in England for fattening cattle, called "Warnes' Compound." Sir Charles Burrell, in a letter published in the Farmers' Journal, gives an account of the mode of making this celebrated compound, from which we gather the following. It is said to be a very economical and efficacious food.

1st. Let a quantity of linseed be reduced to fine meal, that is to say, let every seed be thoroughly broken. 2d. Put about 156 pounds of water into a copper, and let it boil. 3d. Stir into the water quickly 2 lbs. of the linseed meal, and let it boil for about five minutes. 4th. Let 63 lbs. of barley or bean meal be sprinkled upon the boiling mucilage by the hand of one person, while another as rapidly as possible stirs and works it in. The whole will now have assumed the form of a thick mess or pudding. The fire should be put out, and in a short time the food may be given to the cattle. When cold, the compound should be perfectly stiff. Many farmers put it into moulds like those used for bricks while hot. The compound is generally given in small quantities at first, and increased at pleasure—for the first week, 5 lbs. or 7lbs. per day, when according to the size of the animal and quality of other food given, the quantity may be increased to 14 lbs, 21 lbs, or 28 lbs per day. To make cattle compound with potatoes or white carrots, nothing more is required than, after having been properly steamed or boiled, to remove them from the vessels, *as hot as possible, into a trough*, then sprinkle some linseed meal upon them, and knead the whole into a mass with the rammer. The compound may be put hot into the moulds and made into cakes, or used from the trough. Less labor will be required, if the roots are removed from the cooking vessels in small quantities, and incorporated with the meal. The proportions must be left to circumstances and to the cost at which cattle are intended to be fed. The effect of giving only one pound of linseed meal per day to a bullock, when incorporated with potatoes or carrots, will soon become visible; but if a pound or two more were added, the animal would fatten at a rate which those alone who watched the proceedings could believe.

CURING MEAT.

The difference between doing a thing right, or doing it wrong, is perhaps nowhere more obviously shown than in curing salted provisions. There are few people who do not relish a slice of nice ham, or corned beef; and many a good housewife can speak of the various advantages, in the mysteries of cookery, which belong to well-cured, clear, pickled pork. It is a very easy matter to have all these things of good quality, yet it is too often the case that we find them put up or managed in so careless a manner, that they are either actually unwholsome, or in such condition that they can only be eaten by persons of the strongest appetites.

Hams.—The following mode of preparing hams, we have practiced for several years, and can with confidence recommend it to others.

For every one hundred pounds of meat, take five pints of good molasses, (or five pounds brown sugar,) five ounces saltpetre, and eight pounds rock salt—add three gallons of water, and boil the ingredients over a gentle fire, skimming off the froth or scum as it rises. Continue the boiling till the salt, &c. is dissolved. Have the hams nicely cut and trimmed, packed in casks with the shank end down, as the pickle will thus strike in better. When the pickle, prepared as above, is sufficiently cool, pour it over the hams. They may lie in pickle from two to six weeks, according to the size of the pieces, or the state of the weather—more time being required in cold, than in warm weather. Beef or mutton-hams, intended for smoking and drying, may be cured according to this mode, and will be found excellent.

Much of the goodness of hams depends on smoking. They should be hung at such a distance from the fire, as not to be heated. They should also be hung up with the shank end downward, as this will prevent the escape of their juices by dripping. Small hams, wanted for immediate use, will answer with two weeks' smoking, but larger ones, and those wanted for keeping, should be smoked four weeks or more.

Different articles are used for smoking. Perhaps sawdust from hard wood, where it can be conveniently had, is on the whole to be preferred. Corncobs are first rate, and are said by some to make the "sweetest" smoke of anything. Chips of maple and hickory, or the small twigs and branches of those kinds of wood, do well.

Hams are sometimes cured by adding pyroligneous acid to the pickle, but having had no experience with this mode, we cannot speak of its advantages. Another mode, which we have seen practiced, is to *smoke the barrels or casks* in which the hams are to be kept, and let them remain in pickle till wanted—only taking them out a sufficiently long time before using, to allow them to drain properly. The barrels are smoked by being placed over small fires of chips, cobs, &c. for several hours. The essence of smoke which is thus imbibed by the barrel, is imparted to the pickle and thence to the meat.

Beef.—The best pieces for corning, are the plates, ribs and briskets. Pack the pieces in casks, giving a very slight sprinkling of salt between each piece. Then cover the meat with a pickle made by boiling together, in 4 gallons of water, 8 lbs. salt, 3 lbs. brown sugar, 3 oz. saltpetre, 1 oz. pearlash, for 100 lbs. meat. Keep a heavy flat stone on the meat, that it may be well immersed in the pickle. Beef packed in this manner will keep a year, and will rather improve than grow worse.

Another mode recommended by a gentleman of long experience in the packing of beef and pork, is the following: For 100 lbs. beef take 4 lbs. brown sugar, 4 oz. saltpetre, and 4 quarts of fine Liverpool salt—mix all intimately together, and in packing, sprinkle it evenly over the meat. Add no pickle, the dissolving of the salt, &c. with the juices of the meat, will be sufficient. Keep the meat closely pressed together by a good weight. We are assured that this is the best mode of packing beef that is intended for keeping over the summer, and that the quality of the meat is unexceptionably fine.

Clear pork.—For this we prefer clear salt and water. After having divided the hog, take off the shoulders and hams, and all the lean meat, cut the sides crosswise into strips, four or five inches wide, and after covering the bottom of the cask with salt, pack the strips in layers set edgewise as closely as possible round the cask, with plenty of salt between each layer. When the cask is full and has settled for a day or two, put in cold water enough to fairly cover the pork. There is no danger of using too much salt for clear pork—no more will be taken up by the meat than is needed, and the remainder is safely left and may be used in packing a new parcel.

Beef and Pork for the English Markets.—A great obstacle to the introduction of our beef and pork into England, has formerly been the bad condition in which these articles have been put up. It appears, however, from a table of exports from the port of New-York, that there has been a considerable increase in the exportation of both beef and pork during the present year—there having been sent out from that port alone, 30,015 bbls. more of beef, and 37,903 bbls. more of pork, than in 1843. This increase of exports is thought to be mainly attributable to the introduction of our provisions in England. The improved condition of our beef in particular, it is said, has caused it to be rapidly gaining favor with the English consumer. And as we pay more attention to packing and become better acquainted with the English mode, the trade will no doubt become every year of more consequence. Our *Cheese* is also becoming an article of considerable importance for exportation to England, and when our dairymen can be induced to pay that attention to its manufacture, which is necessary to adapt it to the English market, the exports will probably greatly increase.

Connecticut Farmer.—A new series of this paper, published at New-Haven, was commenced on the 1st Nov. It it well printed, on new type, and published semi-monthly, at $1.00 a year, by J. M. Patten.

Bury not your faculties in the sepulchre of idleness

INFLUENCE OF WATER ON THE TEMPERATURE OF SOILS.

It is well known that a really wet soil, as well as a very dry one, is unproductive. The various operations of an excess of water in checking vegetation, are not all, perhaps, easily told, but there is no doubt that one of the most important of its injurious effects, is the low temperature which it induces in the soil. It is very common, when speaking of soils, to couple the term *wet* with *cold*, as such a soil is "wet and cold." Now the popular idea expressed in this case, is undoubtedly correct—that is, a wet soil, is of course a cold one. Several reasons why this is so, might be given; one of which is, that the degree of temperature which would otherwise communicate heat to the soil, produces evaporation, by which the heat is abstracted from the soil and dissipated in the air. There are other causes for the deleterious action of an excess of water in soils, but whatever they may be, it will be readily admitted that a removal of the evil by thorough draining, is expedient. In an essay by Josiah Parkes, published in the Journal of the Royal Agricultural Society, we find the philosophy of this subject illustrated in a manner more clear and satisfactory, than we have before met with. Mr. Parkes observes—

"As heat is generally considered to be an imponderable body, we are without the means of ascertaining directly by weight or measure, the quantity of heat absorbed from soil by the evaporation of water. The following illustration of it will, however, be familiar enough to the mind of the engineer, and will also, I think, enable intelligent farmers to form an idea of its immense amount."

"If we suppose the rain falling on the surface of an acre of land in a year to be 30 inches in perpendicular depth, it would amount to 108,900 cubic feet—3,038 tons; which, spread over a twelve-month, gives an average of 298 cubic feet—8¼ tons, or 18,647 lbs. per diem. This weight of water would require for its diurnal evaporation —supposing it were all carried off by that means—the combustion of 24 cwt. of coals, as ordinarily used under the steam boiler, or *one cwt. per hour per acre*, throughout the year! We thus obtain some idea of the abstraction of heat from land under the circumstances of perfect aqueous repletion and stagnation, and there are too many soils approaching them. We may also imagine the depression of the terrestrial temperature consequent on the abstraction of so much heat from the mass of the soil—a depression which must ever be in proportion to the excess of water present in the soil, over and above the due complement required for the supply of vegetation. Soils in that state must necessarily be very cold in the spring months, and much colder at the time of the commencement of vegetation, and throughout the summer, than well drained or naturally drier lands. If we knew the capacity for heat of any given soil, and the weight of water mixed with it in excess, it would be easy to determine, very nearly, the depression of temperature caused by its evaporation. We know that the heat of a pound of water in its gaseous state, that is steam, would keep down the temperature of 1,000 lbs. of earth one degree; of 500 lbs. two degrees, and so on."

"Secondly, excess of humidity obstructs the absorption of heat by the solid matter of the soil. Water in a quiescent state, is one of the worst conductors of heat with which we are acquainted. If it be warmed on the surface—and it derives, when mixed with soil, nearly all its heat from the sun's rays—water transmits little or no heat downwards."

"If a mass of water be heated from below, the whole quickly attains an uniform temperature by reason of motion excited amongst its particles. The lowest stratum, when heated, becomes of less specific gravity than that resting upon it, and the heavier superincumbent portions descend and push that which has been warmed, upwards. Much of the heat of the sun's rays, is, therefore prevented by excess of water from entering into, and being transmitted through, the mass of the soil."

"Thirdly, water is a powerful radiator of heat, that is it cools quickly. All bodies, whether fluid or solid, possess peculiar powers of emitting or radiating heat, and water is esteemed by the late Professor Leslie—in which opinion he has been joined by other philosophers—to stand at the head of radiating substances."

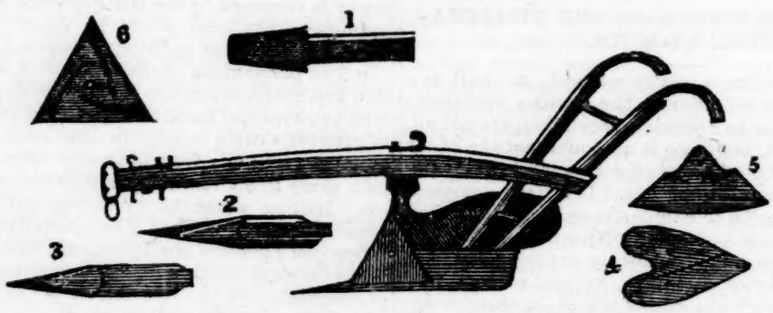
"The phenomena of the production of cold by radiation and evaporation, are essentially exemplified by the well known experiment of exposing water, warm enough to give off visible vapor, in one saucer, and an equal bulk drawn from a well in another saucer. The former on a sharp frosty morning, will be found to exhibit soon est. Boiling water thrown on the ground, will freeze sooner than cold water. The cooling powers of evaporation and radiation combined, and if radiation chiefly, or solely, are represented in this experiment by the order of congelation in the two vessels in time; but the difference in the quantity of heat omitted from each of them, is immense, as appears from what is stated above with reference to the constituent heat of vapor."

"Fourthly, as the temperature of water diminishes during the night, or in the day time, according to the varying conditions of the atmosphere, by radiating its heat to the heavens, its specific gravity increases; and the superficial stratum which is first cooled, immediately descends by reason of its augmented density. This film of cooled and heavier water is as quickly replaced by relatively warmer and lighter portions which become cooled in turn and successively sink. Water, therefore, though a non-conductor of heat downwards, when warmed on the surface, becomes a ready vehicle of cold in that direction, when cooled on the surface; and this cooling process may even continue, under fitting circumstances, until the whole of a given mass is reduced to the low temperature of 42 deg., at which point, water attains its maximum density. The further descent of cold through this process, would then cease; but the refrigeration occasioned by it must effect all soils, to a greater or less degree, which hold water in excess, that is, when in a state of stagnancy near to the surface. Those soils only can be exempt from this chilling influence which are not naturally retentive of water, or which are artificially and deeply drained. Thus excess of water conduces to the production of *cold* in soil by means of several independent, vigorous, and ever active properties."

"On the other hand, when a soil is naturally so porous, or is brought into such condition by art, that rain-water can sink down into the earth, it becomes a carrier, an alert purveyor, instead of a robber of heat; and tends to raise, permanently, the temperature of the mass of useful soil; and this more particularly and beneficially, during the vegetative season. Rain-water, at that time, conveys downwards the more elevated superficial heat of the soil, and imparts it to the subsoil in its course to the drains; it leaves the soil in a fit state to receive fresh doses of rain, dew, and air, and in a better condition to absorb and retain heat, at the same time that it promotes, in other ways, its fertility and productiveness; but a consideration of the chemical effects attributable to the continual circulation and renewal of water and air is foreign to the present discussion."

"In order to render the change of water perfect, and its action uniform throughout a field, all drains should be deeper than the active or worked soil, and covered. Superficial drainage is comparatively of little value. If drains are open, much of the rain precipitated on the surface necessarily passes into them before it has permeated the whole mass; consequently it carries off with it heat, which would have been usefully employed in warming the lower strata. If drains are not deeper than the worked bed, water remains before in a staghant state, which must chill the roots of plants and diminish the temperature of the superincumbent mass."

Crops in Illinois.—Extract of a letter from H. A. Cyrus, Esq. dated Houston, Oct. 17—"In Adams county, the past season, the crops have been, of wheat, about an average; oats, good; corn and potatoes, poor, say two-thirds of an ordinary crop; these last, in part of this and the adjoining counties, are very inferior—had well nigh proved a failure; but in other places are very fine. It has snowed more or less, for three days past, and the ground is now covered from 3 to 4 inches. This is an early start for winter, in middle Illinois."



B. WOODCOCK'S SELF-SHARPENING PLOW—(Fig. 99.)

In reference to this plow, the manufacturers enumerate the following advantages:

"1st. Individuals who have used it, say its draught is about one-third less than other plows—two horses doing the work of three. 2d. It is constructed so as to turn a furrow against a moderate hill equally as well as on level ground, or down hill, and competent judges say it is superior to either the Crane, Hornet, Bull, Crockett, Franklin, Peacock, Patent-lever, or any other plows they have used, as it performs with more ease to man and horse, and makes better work. It turns the furrow round on the top and hollow below, thus leaving the plowed surface more exposed to the action of the harrow, than other plows, and gives the vegetable matter a better chance to decompose than if turned flat or irregular. 3d. It is comparatively free from choking or carrying dirt, and is said to make the ground more productive than other plows. 4th. It admits of three kinds of points and two kinds of shares, (but one point and one share being used on it at the same time,) of which the following is a description: First, the metal point, (fig. 1,) can be turned upside down when the under side wears round, at which time other points become useless, and thus repeated until worn out. The second (fig. 2,) is a renewable point, made of cast or wrought iron, and is formed to receive a piece of iron or steel on the end secured by a rivet. The third (fig. 3,) is also renewable, and made of wrought or cast iron, with a V formed piece of iron or steel on the end fastened with a rivet. These can be renewed with little expense. The first share (fig. 4,) has two edges, and turns laterally. When the outer edge wears dull, the inner edge may be turned out. The second share, (fig. 5,) is self-sharpening, with one edge, which, when beveled below, can be turned end for end and thus throw the beveled side up. One metal point and share costing 25 cents, can plow 40 or 50 acres of good ground, to which fact hundreds can testify. 5th. The cutter, (fig. 5,) is made in a triangular form with three sharp edges; when the front edge wears dull, the under edge may be turned in front, then the third, until worn out. Thus the friction parts of the plow are renewed with little expense, as it is in detached pieces." These plows are manufactured by B. Woodcock & Co. Wheeling, Va.

INDUCEMENTS TO EMIGRATION TO VIRGINIA.

To the Editor of the Cultivator—Having observed in the newspapers that there is a growing disposition among our northern friends, who are inclined to emigrate, to turn their attention to Maryland and Virginia, I have thought it might be acceptable to some of your numerous readers, to have laid before them descriptions of locations in Virginia, that hold out inducements to emigrants. I shall therefore, in this communication, endeavor to lay before them a brief description of a region in Virginia, with which I am well acquainted, and also point out some of the inducements it offers to emigrants.

1st. *The region to be described.*—Its south-western boundary lies about five miles N. N. E. of Fredericksburg, Virginia; its north and north-eastern boundary, about fourteen miles from the same place, extending from Potomac Creek to Aquia Creek, about nine miles in a northern direction, and stretching westerly from Potomac river about twelve miles.

2d. *The inducements offered to emigrants.*—In this region are found nearly all the varieties of soil, that are commonly found in Virginia. Here are some ten to fifteen thousand acres of land that might be purchased, at prices varying from two to six dollars per acre, and some good situations that might be procured on *long*, and in other respects, very favorable leases. Near the middle of this district, as we proceed from the Potomac westerly, are found inexhaustible deposites of the best blue marl and green sand, the efficacy of which, as a manure, has been tested, and its fertilizing effects may be seen by any who would visit this region in the months of May and June. By the use of this marl and other resources for manure, that are found here in great abundance, directed by skill and industry, these lands might soon be restored to a high degree of fertility. Here also, are found never failing springs of excellent water, and many of the locations are as healthy as any in Virginia, and most of them more healthy than those usually selected by emigrants to the west.

The Richmond, Fredericksburg and Potomac Railroad, passes through the middle of this district, thus bringing it within easy and rapid communication, with the markets of Richmond, Fredericksburg, and the District of Columbia. To our northern friends, then, who contemplate emigrating to the west, we would say—"Come hither, and see!" A.

Fredericksburg, Va., Nov., 1844.

DISEASE OF THE POTATOE.

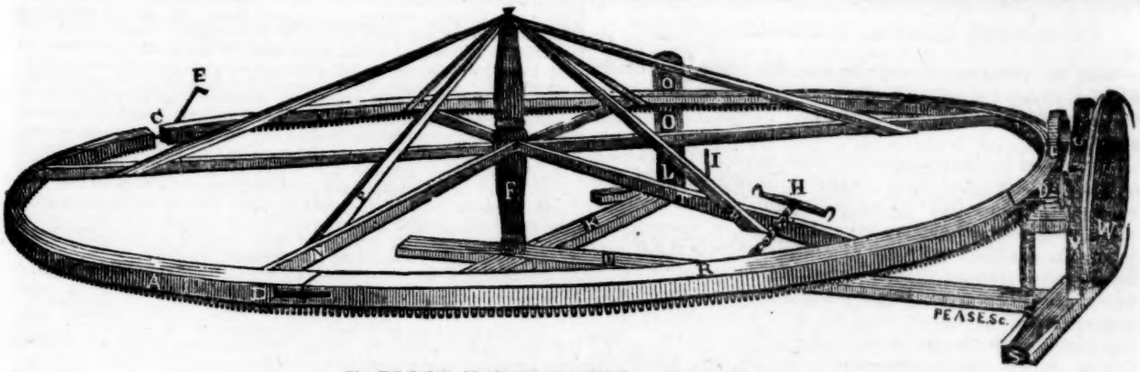
Mr. L. Tucker—Among the various speculations respecting the disease of the late potatoe crop, I have recently heard a cause assigned, which appears to me more satisfactory than any I have seen in print. It seems that on the night of the 15th of August last, there was a "honey dew," as it is called, a glutinous exhalation with a sweet taste, which settled on the herbage and leaves of the trees throughout this region of country.

A neighbor of mine informs me that a farmer of his acquaintance in Hartford county, on the afternoon before the falling of this dew, removed a carpet which his family had spread out on his grass, and spread it on a part of an adjoining potatoe patch, where it remained through the following night and morning, and that after the tops of the potatoes in the rest of the patch had entirely decayed, the tops which had been covered by the carpet, continued green until fall; and that while the rest of the crop almost wholly rotted, the part under the carpet gave a sound and abundant yield. Another neighbor informs me that on the morning when the "honey dew" appeared, he heard a farmer say that it would kill the potatoes.

Now this "honey dew" is a phenomenon of which I never before heard, but to you and most of your readers, it is probably familiar. It seems at all events, if it prevailed over the eastern and middle States at the time mentioned, to afford a rational and satisfactory solution of the much vexed question. A glutinous substance covering the potatoe tops at the period of their most luxuriant vegetation, would stop the pores and cause sudden death. The disease and death of the tops, would cause the tubers to decay in the precise manner they have done. Please give your views on this subject. and oblige

Yours, John Boyd,

Winchester, Ct., Nov. 6, 1844.



TAPLIN'S HORSE POWER—(Fig. 100.)

It will be seen by the report of the Committee of the State Agricultural Society, that the above horse power, the patentee of which received the first premium at the Agricultural Fair at Poughkeepsie, can be propelled by two horses with sufficient power, and afford sufficient speed, for threshing under all ordinary circumstances. There are however, six spaces in which horses may operate; so that almost any amount of power may be generated, and this power is applied directly to the friction rollers, in the pinion which carries the speed wheel, without a complication of machinery. Another decided advantage which this horse power possesses over most others, is the ease with which it can be taken down and moved; it can be carried in a one horse wagon, and one man can set it up ready for operating in fifteen minutes; all repairs can be done with trifling expense, by any common blacksmith. These horse powers have been thoroughly tested, and good judges of machinery give it as their opinion that the principle is the best in operation. These horse powers are made by Hull & Co., Tribe's Hill, Montgomery Co. N. Y., who have purchased of the patentee the right of the Counties of Albany, Schenectady, Montgomery and Greene, and will manufacture to order, Horse Powers and Thresners on short notice. C. D.

QUEENS COUNTY AG. SOCIETY.

Mr. Tucker—Our third annual Fair and Cattle Show was held in the village of Jamaica on the 10th inst. A thrilling interest was evinced by the thousands of enlightened agriculturists assembled on the occasion, by a most admirable and gratifying display of fine stock, of which the show of brood mares and thorough bred cows, was most extensive—some of them were of superior symmetry and fineness, and highly creditable to the farmers of the county, equalling in many respects, the exhibition at the late Fair at Poughkeepsie, where, had they been exhibited, they would doubtless have taken the first premiums. A similar opportunity I trust will not be permitted again to pass unheeded, yet to overcome which, we have two obstacles to surmount—one is, many of our best agriculturists are Quakers, who hold to the belief that all competition for money, is gambling—another is, a happy consciousness, characteristic of the inhabitants of the county, that they are well content with their situation, and that they have the only or best place of existence within the bounds of their daily occupation. Such local feelings, I trust soon will give place to a desire to promote the general good, and all endeavor by their individual exertions to make future exhibitions as great as possible, where the young can view the best stock, agricultural products, &c., from the north, the south, the middle and the west, assembled at one common meeting. The result of which, must be to those having the best, a gratifying consolation to themselves, and afford to others the best opportunity for improvement. The show of choice fruits and agricultural products, surpassed every previous exhibition, and was all that could be desired to please the most fastidious. The show of flowers was most charming; and their arrangement called forth loud and hearty praises to the "Fair," among which was a Cornucopia, tastefully arranged of Dahlias, Roses, and other choice and beautiful flowers. The horn was well filled, out of which was pouring an abundant stream of Catawba and Isabella grapes, peaches, Seckel pears, strawberries, &c., reaching to the table.

The display of fancy productions was of exceeding taste and skill, conferring exalted credit on the lady contributors.

The Address, delivered by the Hon. Gabriel Furman, of Kings Co., was replete with interest. He spoke of Agriculture as of the most dignified, laudable, and important pursuit of man. The uniform harmony and good order which prevailed throughout the day, evinced an increasing prosperity for our County Society. The premiums awarded for the year will amount to about $300.

Oyster Bay, Oct. 19, 1844. S. Y.

BOOK FARMING—A FACT.

"I want to know if you believe in this book-farming," said a neighbor, as he walked into the room, where I sat reading the Cultivator.

"Be sure I do," was the reply.

"Well, I don't; I never took an agricultural paper in my life. There is B. S. of W——, who came into this country, fifteen years ago, and had to buy fifty acres of land on credit. He has cleared that up, and added from time to time, till he now owns two hundred acres—has good buildings, and money at interest. He always has good crops. He has averaged *twenty-five* bushels of wheat to the acre for several years; it is the same with all his other crops. While his neighbor E. W. has not raised more than *seven* bushels of wheat to the acre, and some of his other crops he never harvests. I would give more for the experience of B. S. than for all the book-farming and farming by rule in the world.'

"Very well, sir, now let me have a word. This 'experience' of B. S. of which you speak, (i. e. the method he adopts to raise twenty-five where his neighbor raises seven bushels of wheat, and other crops in proportion,) if written out and published, would be the very *essence* of book-farming, which you so much despise, and might benefit others as well as you. And then, secondly, I know this B. S. also, and it gives me pleasure to inform you that he is a regular subscriber to, and constant reader of *three* standard agricultural papers—the 'Cultivator,' the 'New Genesee Farmer,' and the 'Western Farmer,' while this same E. W. will not have an agricultural paper in his house, partly because he does not '*believe in book-farming*,' and partly because he *cannot afford to take such a paper*."

Here the man suddenly remembered his errand, which was to borrow an improved harrow, a plan of which I had found in my paper, and which he was pleased to say, "did the work so much better than mine," (his)—so the subject was dropped. I intend to speak to him again, ere long. H.

Ohio, Oct. 1844.

Locked Jaw in Horses.—It is said that pouring water along the back from a watering-pot, for a considerable time without intermission, will effect a cure.

PEDIGREES OF COL. RANDALL'S SHEEP.

MR. L. TUCKER—I enclose you the pedigrees of the Merino sheep on which I drew the first premiums of the State Agricultural Society at the late Fair at Poughkeepsie.

My object is, incidentally, to save myself the trouble of answering almost daily inquiries on the subject, but, mainly, to throw light on an important, and among those who have not particularly investigated it, a mooted subject, viz. whether there are or are not now in the United States, pure blooded descendants of the early importations of Spanish Merinoes. Some have supposed there were none remaining; others, that the whole number remaining are confined to the flock of Hon. Wm. Jarvis. That Consul Jarvis has them, cannot be denied, unless we would put bare conjectures against the *direct testimony* of a man who concededly stands before the public unsullied in every relation of life. That others also have them, I will proceed to show by the positive testimony of various gentlemen, a portion of whom are well known to the public, and whose character and standing is not inferior to that of any in the United States.

I have, for brevity, confined myself to the representatives of but a single family in my flock; though I have other strains of blood, the purity of which is equally susceptible of proof, and which I know to be accompanied with equal value in the individual.

Andrew Cock of Flushing, Long Island, purchased imported Merino sheep of Richard Crowninshield, and various other importers. In 1823, he sold his flock to Hon. Charles Rich, whom many will recollect as a former member of Congress, from Vermont, and Leonard Bedell, both of Shoreham of that State. John T. and Charles Rich, sons of Charles Rich, senior, inherited their father's flock. John T. has kept his portion of it pure to the present day. Charles kept his pure for a period, but whether he has to the present day, or whether he retains them at all, I am not informed. Bedell kept his flock pure to the time of his death, at and shortly previous to which time, portions of it fell into the hands of various breeders, several of whom have preserved it pure to the present time. John T. Rich, S. W. Jewett, Gen. Jasper Barnum, M. C. W. Wright, and some other individuals own descendants of the Cock flock, which have been preserved pure and unmixed, a portion of them from *any other blood*—a portion of them from any other blood excepting that of Consul Jarvis's importation, by the use of rams regularly attested by Consul Jarvis to be pure descendants of his imported Spanish sheep. The ewes of mine which received the State Society's first and second premiums at Poughkeepsie, were got by "Fortune," dams pure bred ewes of the Rich or Cock stock, owned by S. W. Jewett.

The following statement by the Hon. Effingham Lawrence, of Long Island, (who acted as Chairman of the fine wooled sheep committee at the 2d State Fair at Albany—who has owned, bred and sold more pure bred Merinoes, and possesses a greater knowledge of the early importation of them, than almost any other individual in the United States,) shows the kind of sheep possessed by Andrew Cock, his skill as a breeder, and his integrity as a man.

Judge Lawrence's Statement.

Yours is duly received, in which you refer to a conversation we had, on the subject of Merino sheep, and particularly of the quality and purity of the flock of Andrew Cock, who was my near neighbor. We were intimate and commenced laying the foundations of our Merino flocks about the same time. I was present when he purchased most of his sheep, which was in 1811. He first purchased two ewes at $1,100 per head. They were very fine, and of the Escurial flock imported by Richard Crowninshield.

His next purchase was 30 of the Paular breed at from $50 to $100 per head. He continued to purchase of the different importations until he run them up to about eighty, always selecting them with great care. This was the foundation of A. Cock's flock, nor did he ever purchase any but pure blooded sheep to my knowledge or belief. Andrew Cock was an attentive breeder; saw well to his business, and was of unimpeachable character. His certificate of the kind and purity of blood I should implicitly rely on. I recollect of his selling sheep to Leonard Bedell of Vermont. EFFINGHAM LAWRENCE.

Flushing, 1844.

Statement of John T. Rich, Esq.

I certify that my father, Charles Rich, and Leonard Bedell, former residents of this town, (now deceased,) did on or about the year 1823, purchase the entire flock of sheep owned by Andrew Cock of Flushing, Long Island. Accompanying said sheep, Mr. Bedell brought a certificate that came with the sheep from Spain I have read said certificate, which gave a full description of the sheep purchased in Spain, with guaranties of their purity of blood, which was regularly attested by the American Consul then in the Spanish or Portugese dominions. I thereby had satisfactory evidence that they were all of this importation, and that many of them brought to this town, were the identical sheep imported. The certificate, I am confident, described them as from the Paular flock. The ewe that was the dam of Mr. Jewett's buck Fortune, was a pure descendant of this imported flock above described. I have preserved this flock pure to this day, which amounts to more than five hundred. Some of the flock have been recently crossed by bucks of the importation of Consul Jarvis, which said bucks were purchased from the flock of, and regularly attested by said Jarvis, as being pure Spanish Merinoes.

Shoreham, 1844. JOHN T. RICH.

Statement of Hon. S. H. Jennison, (late Governor of Vermont.)

I certify that I am personally and intimately acquainted with John T. Rich of Shoreham, Vt., the signer of the above certificate, and that his statements are entitled to full credit.

I further certify that Leonard Bedell, late of Shoreham, deceased, was a near neighbor to me, and I recollect learning from him many years since of his purchase of the flock of merino sheep, on Long Island, as stated by Mr. Rich. I have several times seen the certificate mentioned by Rich in the possession of said Bedell. I have reason to believe the portion of the Long Island flock, purchased by the late Hon. Charles Rich, and now kept by John T. Rich, have been pure as he states. I was well acquainted with the portion of the flock kept by Bedell, having handled them on several occasions between 1824 and 1830. Some of the ewes in the flock were pointed out to me as imported ones, which were toothless and very old, between the dates above named. I have several times had bucks from the flock, and never entertained a doubt of their being pure bred Spanish Merinos. Mr. Bedell called them, and I think the certificate named them, as of the Paular Breed. S. H. JENNISON.

Shoreham, 1844.

Charles A. Hurlbert's Statement.

I certify that I lived near neighbor to Leonard Bedell, in the town of Shoreham, Vt., in the year 1823, and that during that year Mr. Bedell drove a lot of sheep from Long Island, purchased of Andrew Cock.

From 1823, until the decease of Mr. Bedell, a period of fifteen years, I lived in his family, and had the charge of his sheep. Mr. Bedell kept none other but full blooded sheep of the Cock flock, and I was perfectly familiar with a number of them always asserted by him to have been originally imported. They had a distinctive mark as such, had attested marks and ring of copper in their ears, and were very old.

Mr. Bedell also had the original Spanish certificate of their purity of blood, attested by the American Consul. These sheep were preserved by Mr Bedell, entirely free from admixture with any other blood. Previous to his decease, I selected about eighty of his ewes, which I afterwards drove to Monkton, and finally disposed of to S. W. Jewett of Weybridge. CHARLES A. HURLBERT

Monkton, 1844.

Gen. Barnum's Statement.

I hereby certify that I was born, and lived in the neighborhood of Mr. Leonard Bedell, during his residence in this town; that I well remember the flock of Spanish Merino sheep which he drove from Long Island 21 or 22 years ago; that I was familiarly acquainted with this flock of sheep until his decease in 1838, having assisted in shearing them every year during that time with the exception of three or four. Mr. Bedell had a certificate of the lineage of the sheep from Spain, certifying their purity of blood, which I have several times read; and I am *confident* that it described them to be Paular, from the flock of "Don Manuel de Godoy, Prince of Peace," &c. Mr. Bedell, though repeatedly urged to sell ewes, utterly refused, though repeatedly offered high prices by myself and others; nor did he part with any until the last years of his life. I now live on the farm formerly owned and occupied by him, and possess a large portion of the above described flock. I am confident that it has not been crossed with Saxons, or any other breeds of sheep in this country. JASPER BARNUM.

Shoreham, 1444.

Levi Rockwood's Statement.

I moved into the neighborhood of Leonard Bedell, late of Shoreham, Vt., in the spring of 1430, and soon became acquainted with his flock of Merino sheep. I have frequently heard him relate the history of his sheep. He said he purchased them of Andrew Cock, of Long Island, and that they were imported from the flock of Godoy, the Prince of Peace, in Spain, as their Spanish pedigree, in his possession, would show. He always called them Paular Merinoes, and frequently boasted of this as being the best stock ever imported. I have heard him advised to cross the blood of his flock by using bucks from other Spanish flocks, but he insisted on keeping his pure, preferring as he had done, to breed them in and in. I have seen the Spanish certificate which accompanied the sheep, but never read it.

Monkton, 1844. LEVI ROCKWOOD.

Statement of Hon. Harvey Munsill, Judge of Probate.

I hereby certify that I am personally acquainted with the above named Levi Rockwood, and have been for a great number of years. I consider him a man of truth and veracity, and believe him to be so considered by the community at large. HARVEY MUNSILL.

Bristol, 1844.

Certificates to the same general effect with the above, might be indefinitely multiplied, and the above would be promptly *turned into affidavits*, were there any occasion for such a step.

It will be observed that the sheep sold by Cock to Messrs. Rich and Bedell, were imported with a Spanish pedigree, attested to be genuine by one of our Consuls in

the Spanish or Portuguese dominions.* This is distinctly asserted or confirmed in *every one* of the above certificates. This Spanish pedigree named them as Paulars, as appears by the testimony of all the witnesses save one, whose omission to mention the fact was doubtless casual or accidental, and Gen. Barnum distinctly recollects that they were stated to be from the flock of Manuel Godoy, Prince of Peace. Rockwood recollects with equal distinctness, that Bedell was in the habit of asserting that the Spanish pedigree described them as from the flock of Godoy, at a time when that pedigree was in existence, and open to the inspection of any one. This personage was, until his effects were confiscated, the proprietor of the Paular flock. Gov. Jennison and Mr. Rockwood mention that Mr. Bedell was in the uniform habit of calling his sheep Paulars, and this was at a time when this name would probably have attached little, if any additional value to them, in the minds of sheep breeders. Judge Lawrence distinctly recollects that Cock purchased *thirty* Paulars, at one time, of the importer—more than one-third of all the imported sheep ever purchased by him.

The original Spanish pedigree was delivered by Cock to Rich and Bedell, *as the pedigree of the sheep purchased by them.* That certificate described marks and certain rings in the ears, &c., which *corresponded with those borne by the sheep delivered.* Now if the sheep so delivered, were not the identical sheep described in the Spanish pedigree, and their descendants, Andrew Cock must have *forged* their distinctive marks, in imitation of the genuine Spanish marks, and thus been guilty not only of gross fraud, but of what would clearly constitute the *crime of swindling.* Judge Lawrence's statement shows how far such a supposition is reconcilable to his character. We have it then proved by the best testimony which the case admits of, testimony which is entirely conclusive, that Cock sold and delivered to Messrs. Rich and Bedell, not only pure Merino sheep, but pure *Paular* Merino sheep.

The certificate of John T. Rich shows that the part of the flock inherited by him, has been preserved pure from its purchase of Cock down to the present day, (a few of them latterly having been crossed with rams of Consul Jarvis's importation,) and now amounts to 500. It would have been an *insult* to this gentleman's high and unexceptionable character to have published the endorsement of it, contained in the certificate of his intimate friend Governor Jennison, were it not that his statements were to be read far from his native state and the circle of his acquaintance. That Bedell also preserved his flock pure from the time of its purchase to the time of his death, is proved by the individual who had charge of it during that entire period; by Bedell's successor on the farm, who was constantly acquainted with that flock, and assisted in shearing it 12 out of the 15 years during which Bedell lived after he purchased it; by Rockwood, and finally by his near neighbor Gov. Jennison, who fully confirms the testimony, on this point, of all the other witnesses.

Besides the purchase of 80 ewes of the Cock stock by S. W. Jewett, alluded to in C. A. Hurlbert's certificate, I have lying before me the statements of various other purchases, by the same gentleman, from both the Bedell and Rich branch of the same stock, which it is not necessary to publish. Mr. Jewett's certificate of the pedigree, &c., of the ewes exhibited by me, is as follows:

WEYBRIDGE, ——, 1844.

I have this day sold Henry S. Randall, of Cortlandville, N. Y., for the sum of $200, eight yearling pure bred Spanish Merino ewes, being the choice of my entire flock. Said ewes were got by my buck Fortune, dams ewes of the Rich stock, and they have a half penny taken from the under side of the right ear. Their fleeces averaged 5 pounds of washed wool, and the four accompanying samples† were taken from four of them. S. W. JEWETT.

The pedigree of Fortune's dam has been given in Mr. Rich's statement above; that of his sire is thus stated by his breeder:‡

Statement of Tyler Stickney, Esq.

The ram which was the sire of Mr. Jewett's buck Fortune, I purchased of Consul Jarvis, of Weathersfield, in the year 1835. He sold the same to me for a pure Spanish Merino ram—ear mark, a notch under each ear. TYLER STICKNEY.

Middlebury, 1844.

No authentication of this statement is deemed necessary, as probably there is not a sheep breeder within fifty miles of Middlebury, who is not perfectly conversant with the history of this wonderful ram.

The history of Consul Jarvis' importation, and his formal attestations of the purity of the rams sold by him, would unreasonably extend the limits of this communication, and probably they are not necessary, to the full substantiation of the pedigrees. He is yet alive; and the history of his importations will be found in a letter addressed to me in the first vol. of the Transactions of the N. Y. State Agricultural Society, page 320.

As I have already remarked, I have other strains of blood in my flock, some entirely distinct from the above, some a mixture between the above and other distinct strains. Their pedigrees are equally susceptible of proof with the above, and are *always open to inspection.*

Yours respectfully, HENRY S. RANDALL.

Cortland Village, Nov. 1844.

ORIGIN OF GUANO.

Concerning the extraordinary fertilizer which is now exciting wide-spread interest in the agricultural world, (and we may add, in the commercial world also, seeing that so many vessels are employed in the traffic,) we are indebted to Dr. James Eights of Albany, for the following memoranda. The opportunities for observation presented by the Expedition—the *first* American Exploring Expedition—in which he was employed as Naturalist, certainly furnished ample scope for judgment on the subject to which Dr. Eights refers:

"Much has recently been said," observes Dr. Eights, "and various have been the conjectures respecting the origin of the justly popular manure termed 'Guano,' brought in such vast quantities from the numerous Islands and headlands of the African and South American coasts; but little or nothing of a definite nature has as yet I believe, appeared in print. All writers on the subject, however, seem to agree in considering it to be the production of some piscivorous birds.

As much uncertainty seems yet to prevail, permit me to cast my faggot on the pile, by offering to such of your readers whom it may concern, the substance of some extracts taken from my notes of a voyage, made several years since to the South Atlantic, Antartic and Pacific Oceans; and likewise, some remarks from personal observations of at lenst one of the birds that largely contribute to its formation.

Being moored at the Island of St. Mary's on the coast of Chili, (latitude 37 south,) I was at an early hour in the morning, called on deck to witness the flight of "Shags," (*Phalacrocorax graculus*) on one of their fishing excursions to the sea; they appeared in such prodigious numbers, that the whole surface of the heavens was almost entirely obliterated from the sight; flying in irregularly formed streams from the main land, from the breadth of but a few feet to that of more than a mile the whole way, extending in a north and south direction along the coast as far as the eye had vision, strikingly bringing to my recollection the highly interesting descriptions of Wilson and Audubon, of the multitude of wild pigeons in some of our western States. They continued in an almost unceasing flight from the time they were first observed, until we were summoned to our mid-day meal, after which time I paid no further attention to their progress.

The favorite resting places of these birds, were the southern headland of the Island, which arose in a precipitious manner from the waters of the sea to an elevation of about ninety feet above its surface, and likewise on the summits of the numerous rocky islets which were every where scattered about in its vicinity. Upon examination, these resting places were found to be entirely covered by well characterized Guano, but so firmly compact, and the surface of the rock so completely besmeared with the

* This original certificate is not now probably in existence. Bedell was in the habit of carrying it much about with him, and frequently exhibiting it. It was probably worn out, or lost.

† These were shown with the sheep at the State Fair, and I should now forward them, accompanying this, had they not been accidentally mislaid.

‡ I erroneously stated in the Jan. Cultivator that Fortune was bred by Mr. Jewett

substance at their uniting edges, that it was next to an impossibility to determine with any degree of accuracy, its relative thickness.

These birds are esteemed as a palatable food, and for the period of three weeks that we remained at this Island, they were daily served at mess for both officers and crew of the ship. Upon examining the contents of the stomachs of several of these birds, we almost invariably found them distended with the bones and partially decomposed relics of a small species of Clupea (Herring,) which range along this coast in immense shoals from the cold waters in the regions about Cape Horn to the immediate vicinity of the tropical line. These cormorants dive and swim well, pursuing and securing their prey while in the water; ascending in the air to devour it, which they do with the greatest facility, tossing it up and catching it again as it descends, they swallow it almost instantaneously in a head foremost direction. From their prodigious numbers, their voracious appetite, and exceedingly rapid digestion, a very large amount of these fishes are daily consumed by them. After having thus gorged themselves with food, they retire to their usual resting places on some projecting headland or rocky islet in the sea, where they remain for hours together, with outspread wings, until digestion has completed its course, when they again proceed to sea to renew the process. It is at such times that the Guano is so copiously deposited.

This species of cormorant has a great geographical range, being found along both continents, from the frozen regions of the north, to the antartic sea, and of course are not uncommon along our whole Atlantic board, but in consequence of the frequent and copious rains which fall in these latitudes, the guano is unable to accumulate, being dissolved and washed away almost as rapidly as it can be produced.

Penguins likewise, have frequently been mentioned as contributing largely to the formation of guano, but from the peculiar habits of the various species of these birds it will be readily seen that but a comparatively small portion of this substance can justly be attributed to them. In the warm climate of the Peruvian coast where this manure chiefly abounds and where rains are seldom, if ever known to fall, these birds are relatively of rare occurrence, but gradually increase in number in proceding to the south, until the antartic seas are reached, in the cold waters of which, they in the greatest profusion are found, being not unfrequently observed, covering the surfaces of its numerous icebergs which are every where to be seen drifting along at a rapid rate by the power of the winds and the velocity of the currents.

These birds are also of an aquatic nature, spending the greater portion of their existence in the open sea, visiting the land only for the purposes of molting, hatching and rearing their young, which certainly does not exceed three months in the year. In the high latitudes where Penguins most abound, guano is exceedingly scarce.

From the facts here stated, and the circumstance that no piscivorous birds are so numerous in the regions where guano is found in the greatest profusion, as the *Phalacrocorax graculus*, I consider myself fully justified in the conclusion, that it is by these birds that this truly valuable manure is almost altogether produced.

DISEASE IN CATTLE.

Mr. Tucker—I would like to inquire of you or some of your correspondents respecting a disease by which I lost a cow last winter, and also of another by which I lost a heifer this summer.

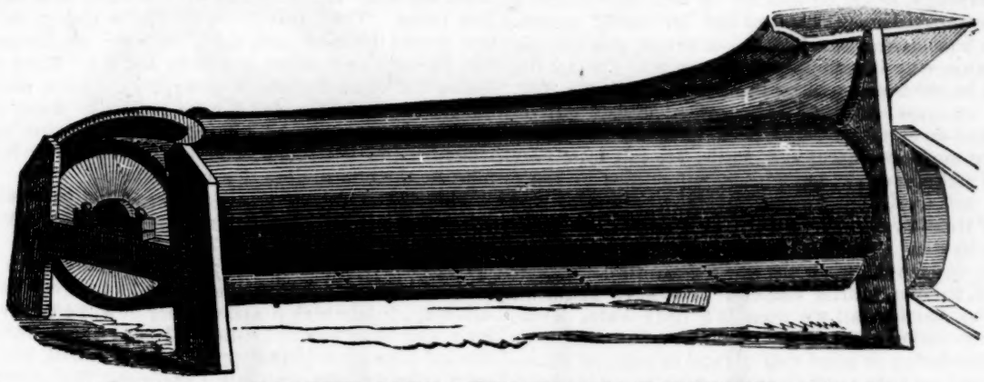
The cow at the time she was taken sick was nearly fat enough for the knife; she had been fed from the commencement of winter, (say almost the middle of Nov.) with barley meal, at the rate of about three quarts per day, the remainder of the time, (one month,) with plenty of hay, and water once a day as much as she would drink. She was kept in a close stable, (excepting when out to water,) and well bedded with clean dry straw. The first symptom of disease manifested, was about the middle of January. She first refused to eat her usual meal; her food was withdrawn, excepting hay, for one day; she was then fed lightly, and appeared to be fully recovered; in about twelve hours after, she was as usual turned out to water, when she refused to drink and appeared to be cold; trembled very much, manifested a desire to go into the stable, frothed a little, and discharged a good deal from the nose; her eyes, and the inside of her mouth were red. She was immediately housed, and having the appearance of suffering from a cold, she was kept warm, and treated as follows: first, about half a pound of Epsom salts was given, followed by a strong decoction of Cayenne pepper and ginger, well sweetened with molasses. This failing to open her bowels, about one quart of melted lard with one pint of molasses, were given; no effect; two quarts of soft soap were then given; the above were all given as drenches, as also one half pint of castor oil, all within two days; at the same time, the syrenge was freely used with warm water and melted lard, and also soap-suds, but all with very little effect. She passed but little dung, and that little of a natural appearance; passed water freely; the slabbering, the discharge at the nose, the redness of the eyes and mouth constantly increasing, and also a great difficulty of respiration, with an uncommonly offensive breath. She refused to eat anything during the whole time, excepting a little bran mash well salted, and drank but little; as no effect was produced, but little was done after the third day: at the end of the fourth day she died; when she was opened, her lights were of nearly as dark a color as her liver, and entirely filled with a bloody froth; the maw was quite hard, not having been passed by any of the cathartics administered.

The heifer which I lost, was taken sick about the 20th of July when she was in very good condition; her pasture was bottom land partly inclined to be boggy, with a stream of good water passing through. Her first symptom was an attempt (as I thought,) to pass fæces, attended with straining and great pain; about a quarter of a pound of Epsom salts was administered in gruel; no effect; in three hours, half a pound more; the next morning appeared rather better; the straining continued through the day, when half a pound more of salts was administered; no effect; the heifer appeared lively, continued to feed well and drank freely for four days, when she died. When she was opened, her maw was very hard, and to appearance had passed nothing for several days; the bladder contained no water, but was very much swollen and the inside was quite rotten, as also were the passages connected with it. Now I would like to know what would have been a proper course of treatment in these cases, so that I may be prepared for similar ones in future. Yours, &c. L. Hartman.

SORE TEATS.

Mr. Tucker—During the past summer, a friend of mine in this place, who by the way is a practical and observing farmer, received reports that his cow's teats were very sore, to which he applied lard, cream, and other softening applications, none of which afforded relief; on the contrary, the soreness increased. He then directed his laborers to mow all the bushes, weeds, and grass, in and about the fields and fences of his pasture grounds, that were high enough to reach the cow's teats, premising they might be scratched by thorns, or poisoned by noxious weeds. Still no success. The teats growing more inflamed, and becoming nearly covered with raw sores, he then went through his fields personally to see if the bushes and weeds were all cut, which he found done to his satisfaction. He then gave up the case as beyond his knowledge. Some of the cows he was compelled to desist milking. Subsequently, in walking through his fields during a warm afternoon, he observed his cows quietly standing in a pond, wisping their tails at the flies, with their teats reaching the water, upon which he discovered a large number of leeches, (Hirudo,) such as are found in most ponds of standing water. The mystery was at once solved, and the pond lowered by draining; since which, there have been no complaints of sore teats. S. Y.

Oyster Bay, Queens Co., October 12, 1844.



SMITH'S HORSE POWER CORN SHELLER AND SEPARATOR—(Fig. 101.)

This machine, patented by F. N. Smith, is recommended as possessing the following advantages:

"1. It is simple in construction and capable (with ordinary team for threshing) of shelling and separating effectually from one to three hundred bushels of ears per hour, depositing the cobs a reasonable distance from the shelled corn, which are perfectly clean from corn silks, husks, &c,, and neither the corn or cobs are broken, so as to be injured by the operation. 2. It may be fed from the shovel or basket, or feed itself by drawing the corn from the crib, in either case operating equally well. 3. It is durable to almost any extent, as it improves by use. 4. It is safe in its operation against accidents of any kind whatsoever. 5. It may be readily attached to any horse or other power, taking the place of grain thresher, and is equally portable with the same. 6. It will shell large, small, and deformed ears with the same facility, also green or damp corn with the same perfection as when dry. 7. Corn shelled after this manner, is allowed by those having tried the experiment, to look better, and measure from 5 to 10 per cent more than horse treading or flailing, as the corn leaves the operation as soon as it leaves the cob, the cob remaining until clean." The above machines are kept constantly on hand and for sale at the foundry of HANNA & PEASLEE, Kinderhook, Columbia county, N. Y. Price $40—warranted.

INQUIRIES ABOUT CHARCOAL, &c.

To Za. Drummond, Esq. of Amherst Co., Va.:

MY DEAR SIR—As I find your name in the pages of the Cultivator, I take the liberty of addressing you through this medium. And I feel gratified that the friends of agriculture, notwithstanding their living thousands of miles apart, can thus interchange sentiments, and be benefited by each other's experience, although not personally acquainted. Thanks to the Cultivator, I have been benefitted by the communications of yourself, neighbor Robinson, and other valued correspondents of this useful agri cultural journal. While I am combatting with the various incidents of a pioneer life, enjoying its sweets as well as occasionally tasting its bitter, you, hundreds of miles distant, are setting under your own vine and fig tree in the sunny fields of the south.

What I desire, is, to be further informed of the fertilizing effects of charcoal as a manure—its best method of application, and to what soil it is best adapted; whether clayey or sandy. I am particularly desirous of knowing what was the result of the experiment you made (as mentioned on the 48th page of the Cultivator, vol. 10,) of scattering it, after being pounded, over the litter of your cattle yard. Does it answer your expectations as a manure? Will it pay the expense of burning, if the wood costs nothing more than the cutting?

My attention has been more particularly called to your communications, by reading an article in the last number of the Cultivator, from A. J. P. of Newburgh, N. Y., who says it is "in itself, almost or quite valueless;" and "it is at any rate doubtful if it is ever converted into earth, or of itself, furnishes any food for plants." He further says that "when used in the compost heap, or when saturated with urine, all the substances it comes in contact with, are brought under its influence, and when applied to the soil, are gradually separated by the rains which fall upon them, and undergo in the earth the decay which fits them to become food for plants. Used in this way, charcoal will undoubtedly be found very useful, much more than when applied alone." In your letter of Jan. 15th, 1843, as referred to above, you asked the opinion of the editors on this subject. As we may benefit by their opinion, as well as by the theory of A. J. P., the readers of the Cultivator, (one in particular,) would like to avail themselves of your *experience* on this subject.

On the 80th page of the same volume in the following March, you stated that you should "try it on corn, wheat, cabbage, meadow and grazing lands, and report the result." We hope, friend Drummond, that you will give us a report of your experiments, whether they are favorable, or the contrary. And whether the application of charcoal alone or in the compost heap, is the most advantageous.

I suppose you and the readers of the Cultivator, think it strange that a western man should think of manuring his land—that the fertile fields of the west need no manure, and that there is no possibility of their repaying the least outlay for manure, or anything farther than getting in the seed, and inclosing the whole farm, however large, with the fewest number of miles fencing possible. But we hope to see this idea scouted some day or other. Should this idea continue to prevail, and our farmers act accordingly, we must soon abandon the raising of wheat and see our eastern neighbors, on their old fields, beating us in bountiful crops. Do not call me an ill omened bird; but it is true. Where nature yields so abundantly, if we do not return something to recruit her exhausting energies, we shall soon be doomed to the sad disappointment of seeing a yearly diminution of her products, though small at first, but a diminution as sure and steady as the sands of the hour glass. Our farmers act like the "horse leech's two daughters, crying give, give;" but they make no return. There is as much reason in working our horses and oxen without feeding, as thus tasking our farms without giving them their requisite food; and the man who should refuse to feed his working team because it was already fat and sleek, would act as rational as the farmer who should continue to work the domain God has given him, without feeding it with those fertilizing agents and manures which are so necessary for maintaining it in a fat and luxuriant condition. These things will not always last. The improved system of husbandry, with rotation of crops, and a liberal use of fertilizing agents, will be adopted here. From fifteen to thirty bushels of wheat, to our eastern farmers, looks like a liberal yield. These are our common crops. But forty and fifty bushels to the acre, is as common in England, as thirty to thirty-five is with us. And even sixty bushels of wheat is sometimes produced from a single acre of ground. Now the question is, ought western farmers to sit down and content themselves with from fifteen to thirty bushels of wheat from an acre of ground? Assuredly not. But some say when wheat is but fifty cents per bushel, it will not pay the outlay of a thorough system of manuring. Our crops, I do not mean all of them,

but the average, might be doubled by thorough tillage, a judicious application of manures and fertilizing agents. If fifteen bushels can be added to our crops, and I know of no reason why it cannot, I do know that the last fifteen can be produced with as little expense as the first. For our swamps are full of muck, our forests full of leaves, and many of our barn-yards, (I shame to say it,) unless we move our barns and yards, are full from year to year; and our straw, huge piles, sometimes covering acres, is left to lie and bleach and blow away by the winds of Heaven, if it does not suffer a more speedy destruction by fire. We have also forests that must be felled before we can cultivate the soil; these furnish ashes and coal to our heart's content. We have materials enough for manure; all we want is a little extra labor, and time to make a proper use of them, and our soil, as well as producing as good soldiers and as eminent statesmen, would produce as good crops as the broad domains of our transatlantic brethren.

Yours, my dear Sir, with much respect,

LEVI H. HARE.

Centreville, St. Joseph Co., Mich., Oct. 7, 1844.

CULTURE OF FRUIT TREES, &c.

LUTHER TUCKER, Esq.—In your very interesting paper, The Cultivator, Jan. 1844, page 37, is the commencement of some very judicious remarks, by J. J. Thomas, on the culture of fruit trees. When farmers transplant fruit trees, they have a desire to seem them "bring forth much fruit." I will say to them, follow the directions of Mr. Thomas, and with a little care of the trees after they are set out, they will be sure to have an ample supply of fruit. I hear one say, "I have so much corn to plant and other work to do, I cannot spare time, neither do I think it will make a very great difference. My grandfather and father, never took so much pains, and their trees bear well." I reply—"If you follow the directions of Mr. Thomas, you will have much better fruit than your father ever had, and double the quantity. If you wish to receive the greatest possible benefit from your labor, plant less corn, and take more time to set out your trees."

In the N. E. Farmer of May 11, 1842, page 355, there is a letter I wrote, which differs a trifle from the following statement.

Our island is surrounded by the ocean; it is 21 miles long and 5 wide. But little fruit has ever been raised on it, and that little, very inferior. It has often been said, "it is impossible to raise good fruit on this island." Eleven years ago, I hired a man to set out 17 apple trees. He dug very small holes, and set them out in a very short time. The spring following, I set out one apple tree. I dug the hole 10 feet in diameter and 3 feet deep. The subsoil (yellow earth,) was carried away, and the hole filled with sods inverted, and rich earth. *That tree has borne more apples than all the others.* This spring it measured 34¾ inches in circumference near the ground. The largest of the others, is 23¼ inches. Had I given ten dollars a piece to have had them set out as they should have been, instead of having them set out as they were, I believe it would have been money well laid out.

One of my trees has borne no fruit. This spring, I examined it, and instead of having the roots to extend horizontally, or nearly so, they turned directly down. I have thought of transplanting it this fall. Will that be best? If not, what shall I do with it?

In whip grafting, I cannot see the use of tongueing. I never practice it, and seldom lose one. It appears to me to be labor lost. I never have more than two buds on the scion. I cover the ends with composition. If both buds sprout, I cut off the weakest. If the scion should need support, I tie a small stick to the stock, and let it extend high enough to tie the scion to. In budding, I support the scion the same way. In the spring, if the bud has taken, I cut off the stock as smooth as possible, the healing process commences immediately, and the wound soon closes.

Peach trees do not thrive with us. I have whitewashed them and washed them with soft soap. Around their trunks, I have put ashes, lime, barn manure, chip dirt, charcoal, &c. But they seldom live more than three or four years. Their leaves expand in the spring, and for a few weeks the trees look well, but soon the leaves turn red, become very thick, double up and die. Many of the limbs, and often the whole tree dies. I have carefully examined the leaves, and I have pulled up many of the trees, and examined the roots, to see if the worm had attacked them, but found nothing. I therefore think it must be the atmosphere that effects them.

The Canker Worm and Borer have not troubled me, but we have a plenty of worms that do their work quite as well.

I know of nothing that is so poisonous to insects as diluted oil soap. A few days ago I had a bucket of diluted soft soap, into which a grasshopper flew, he swam about for a long time before he died. I had another bucket of diluted oil soap, a grasshopper hopped into it, and very soon (almost instantaneously,) expired. My gooseberry bushes have been attacked by small green worms. I sprinkled some diluted oil soap on the bushes, which immediately checked their ravages. When Canker Worms are discovered on apple trees, would it not be well, (if it has not been tried,) with a good syrenge, to sprinkle your trees with diluted oil soap?

Will whip grafting do for the grape vine? If so, at what time must it be done?

An answer to the above questions, will oblige some of your constant readers. Yours, respectfully,

Edgartown, Oct. 16, 1844. ALLEN COFFIN.

LABELS FOR FRUIT TREES.

EDITOR OF THE CULTIVATOR—I noticed in a recent number of your paper, a mode for preparing labels for fruit trees, &c. from wood; I send you another, and think far better label. Take slips of zinc, of size suitable, say 3 inches long, by half an inch in width, (any tin plate worker will cut them out of the size desired) drill or punch a hole near the end of each slip; then write upon them the name of the fruit, &c., or its number in your fruit list, with the following composition:

COMPOSITION FOR WRITING ON ZINC LABELS:

Take verdigris in powder, one part.
sal ammoniac, one part.
lamp black, half a part.
water, ten parts.

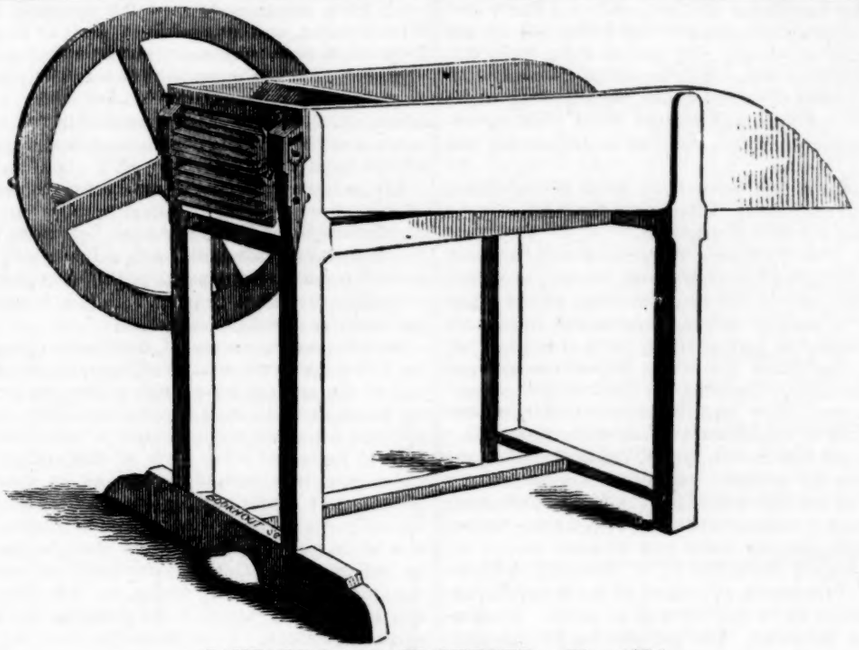
Mix them in a glass or wedgewood mortar, at first adding as much water as will mix the ingredients well together, then add the remainder of the water; when placed in a vessel, let it be well shaken up from time to time, and in a few days it will be ready for use. Shake well before using it. The mixture writes about as easily as common writing ink, and makes a permanent black mark upon the zinc. I have used this composition for labels on my trees for a number of years past, and I do not find that the exposure to the weather has obliterated a single mark; the names are as legible now as on the day they were written; painted cedar labels marked with a black lead pencil, put on at the same time with the zinc labels, have ceased to be of any use, the wood being mostly worn out, and the writing illegible.

The foregoing recipe was furnished me by a gentleman some years since; he said he believed it had been published in some agricultural paper. The labels are to be attached to a limb of the tree by copper wire.

My plan is to write the name of the fruit, &c. on one side of the label, and on the opposite side I place the number which I have affixed to that variety in my fruit book; thus on one side, "*Broca's Bergamot,*" on the opposite side of the label "*No.* 100," No. 100 being Broca's Bergamot, in my list. Yours, &c. W. N. GREEN.

Worcester, Mass., Nov. 8, 1844.

NATIVE GRAPE.—A correspondent of the Boston Cultivator speaks in high terms of a seedling grape, purchased of G. B. Emerson, Esq. of Boston. The size of the berry is said to be about that of an ounce bullet, or that of the Sweetwater grape. The flavor is rich, much more so than the Isabella. It has no pulp or foxy taste. It is not likely to be injured by frost, as it puts out about ten days later than the Isabella, and ripens a month earlier. It was in eating the latter part of August. The vine is perfectly hardy.



SANFORD'S STRAW CUTTER—(Fig. 102.)

LUTHER TUCKER, Esq.—The block accompanying this, represents a machine for cutting hay, straw and stalks, patented by Mr. Sanford of Connecticut. Judging from its simplicity, and the ready sale with which the machine has met, it is admirably calculated to meet the wants of farmers. It consists, as will be seen by reference to the engraving, of two cylinders, armed with knives, revolving together in a cast iron frame, by means of cogs. This iron frame is firmly bolted to the wooden frame and feeding box by means of two screw bolts. It is propelled by a handle fastened to the driving wheel. For durability and ease of performance, it is said to equal any other machine. Mr. Sanford sells them, made of good castings and wrought knives, for $15. They can be examined at the Agricultural Ware House of Henry Warren, River-street, Troy. A SUBSCRIBER.

THE LATE STATE FAIR.

A friend, who thinks that we did not do justice, in our account of the State Fair at Poughkeepsie, to the Horticultural Exhibition, requests the insertion of the following more detailed account of FLORAL HALL and its contents:

One of the principal attractions at the late State Fair at Poughkeepsie, was the Floral Hall, under the supervision of ALEX. WALSH, Esq. of Lansingburgh. The following will give some idea of the arrangement.

Festoons of evergreens were hung in various directions and in such good taste, that the roughness of the temporary building was lost sight of, and you looked, as you entered, into a bower where the fresh green relieved the brightness of the fruits and flowers, and your senses were regaled by their united fragrance. Along the walls were arranged paintings, drawings and engravings, of animals, fruit and flowers.

Its appropriate sign, over the entrance, made from the leaves of the evergreen, and sprinkled with flowers, was an index not only of the exhibition within the building, but of the good taste in which the arrangements were made. Art giving her hand to Nature, and the products of both so commingled as to present a beautiful whole, while each was represented and neither lost, though neither was made pre-eminent. The place did not look like a well filled barn, or even a fruit shop, as such places sometimes do on such occasions; but attention was given to arrangement and effect, and to the thousands who went through the building, a scene was presented which delighted every one, in a way that mere heaps of fruits and bouquets of flowers alone could not do. And yet perhaps a finer display of fruits, flowers and vegetables has not been witnessed in this country—not even in the Boston Horticultural Exhibitions, so deservedly celebrated for their excellence. The peaches were of the largest size, most lusciously ripe and in great variety; plums and nectarines of unblemished skins; pears the most delicate and the most hardy looking, of the deepest green and the most golden hues, of every possible variety—the Beurrées, the Bergamots, the Frederick of Wirtemburg, the St. Michael, the Bartlett, the Seckle, and many others, all bearing unquestionable marks, without tasting, that they possessed in a high degree the peculiar excellences for which each is remarkable. Throughout the whole collection nothing dazzling or glowing. That happy combination was produced—the triumph of Art—which creates at once the sensation of the beautiful, and soothes rather than excites by the exquisite taste which has placed every thing where neither thought or instinct detects the falseness of its position, and which, the longer it is beheld, the greater is the satisfaction, for strict and minute examination, discovering the shades of arrangement and coloring which give so beautiful an effect to the whole.

One of the most prominent and interesting objects in this assemblage of the products of the American soil and brain, was a Temple dedicated to Agriculture and the Arts, under Mr. WALSH's special direction, to whom the society is indebted for this unique ornament, consisting of three arches dedicated to three of the most productive classes of our wide spread population.

The central arch was dedicated to Agriculture, the one on the right to Horticulture, and the one on the left to Manufactures. They are severally denominated coats of arms, the new and better heraldry—*better*, well may we say, since their end and object is the happiness of man; while the old and blood-thirsty heraldry clearly prefigures its origin and aim by the devices it has chosen. We trust, however, that the day is not far distant when the heraldric device of the brawny arm and hammer will be greeted with becoming respect, while that of the bloody hand and sword will meet with merited contempt.

The shortness of our stay and the crowd of visiters pressing around this Lion of the Fair, prevented the possibility of our giving more than a faint impression of the effects it left upon our mind. It afforded us the greatest pleasure however to observe in the central arch a beautiful engraving of the late Judge Buel, one of the early advocates of agricultural improvements, and an esteemed friend of the originator of this structure. Near this was to be seen specimens of wool raised by the late H. D

Grove, Esq., the introducer of Electoral Saxon Sheep into our country. Stretched across the Agricultural arch are beautiful festoons of wheat, rye, broom corn, oats, &c. &c., partially shading beautifully executed paintings of the improved breeds of cattle, while the following motto suspended from the festoons, showed what pleasing results may be expected from attention to improving our Agriculture:

"Those nations which have been most distinguished for their love of husbandry, whether of the garden or the farm, have been the most prosperous."

There were also specimens of rice, hemp, madder, cotton, &c.; products of the east, west, north and south. In the same arch are to be seen drawings of the plow used in Egypt, a clumsy wooden instrument, drawn by an ass and a mule, in juxtaposition with the plow of our country, combining the latest improvements and drawn by oxen, clearly showing the truth of the motto:

"The improved plow and its accompaniments—the only true sources of wealth and evidences of civilization."

The *Cornucopia* was not forgotten, being placed on the column between the arches dedicated to Agriculture and Horticulture; on the side next the Agricultural arch, were ears of corn, highly ornamented with vegetables; and on the opposite side, various fruits and flowers, near a diminutive but highly decorated plow, teeming with the rich products of the earth, as a token of the bountiful harvest vouchsafed to us by the Giver of all good. It seemed to say to the beholder, "Be grateful for Divine goodness," and for all the calm delights of rural life. Near by was the motto:—"The Farmer *who converts "the sword into a plowshare,"* believes with John Quincy Adams, that "Universal and permanent Peace belongs to the laws of Nature and of Nature's God."

In a conspicuous place of this same central arch was displayed to view the motto:—"We love nature, fields, flocks, the grain gathering, the hay making, the flowers, and all that blooms and grows."

This was surmounted by a beautiful engraving, in its figure and scenery most appropriately accordant with the sentiments of the motto, and as it were embodying them to the sight, and also surrounded by the richest and rarest products of our soil.

On the base of this arch was a collection of books appropriate to the farmer and gardener. Among these books were some recent volumes of the Cultivator and other works, the lart works of the gifted mind of Willis Gaylord, Esq., whose writings have conferred lasting benefits upon the farmer. The motto is in keeping:—

"The rich fruits of the husbandman's toil are to become yet richer and more abundant!

"The New York State Agricultural Society are preparing for this result by their recent efforts to introduce agricultural and horticultural works into the common schools and district libraries throughout the Union."

We now pass to the Horticultural arch—a most fitting ornament to grace Flora's Hall. Tastefully stretched across this portion of the temple were festoons of silk cocoons, flowers, fruits, &c. Its right column was wreathed and encased with gorgeous displays of Dahlias and the body of the arch decked with ornamental and classic figures, vases, &c., which could not be looked upon without enkindling the desire of adding to our literary attainments a knowledge of botany, a study hitherto too much neglected—the whole forming an array that could not fail to strike every beholder with admiration of the useful and beautiful. In the midst of the flowers was the following charming and appropriate motto:—

"Not useless are ye, flowers, tho' made for pleasure
Blooming o'er fields and wood by day and night,
From every source your presence bids me treasure
Harmless delight.'

surrounded by an engraving representing a beautiful female, herself adorned as to her head and form with clusters and wreaths of native and exotic flowers.

On the left of the column was appropriately placed the motto:—

"When the inspired writer sets forth the ground upon which the title of King Solomon to pre-eminent wisdom was founded, he placed the knowledge of plants foremost and most conspicuous among natural objects."

On the other side of the Agricultural arch, as has already been mentioned, stood the structure in honor of Manufactures, entwining the products of human art with those of nature—a conception alike happy and ingenious. The arch over the manufactures was neatly plated or cased with variegated beautiful specimens of American prints, silks, &c. Many of the silks were very attractive—some of them spun on the common wheel and wove on the old hand loom.

While looking upon the substantial cottons and fabrics of wool, the sources of comfort to the laboring man, and the various beautiful silk articles before us, we were led to anticipate that our silk *youth* will ere long attain to *giant* manhood. In the midst of the silks was the motto:

"Silk, soon to become an important branch of American industry and national wealth."

The former importers of the coarse cottons of India, the baftas, gurraws, &c., would scarcely have credited the tale of the astonishing change in the quality and price of the goods destined to take the place of the coarse article, and that American cotton would be valued and sought for, even in India and other parts of the eastern continent—a change now witnessed by us, and so speedily brought about by the magic power of machinery and the ingenuity and perseverance of American workmen. The time was when our Dutch ancestors thought that brick must be imported from Germany for building houses and paving side walks, our clay being, as they thought, an inferior article; but "truth is the daughter of time" that dissipates delusions. It is found that our clay will make good brick, and that our workmen with them can form magnificent structures; and so it is found that American cottons are quite equal, if not superior, to foreign fabrics in quality, while they are furnished at so moderate prices that the laborer who now earns his six shillings per diem can dress with greater neatness and comfort than many who in former days were reputed wealthy.

The great variety and beauty of the American prints here exhibited could not fail to impress the beholder most favorably in regard to American skill, and the former importers just referred to, to whom the story of our cotton goods seemed as a dream, must, on looking at these prints, be almost ready to think themselves transported to some fairy land. The beautiful array of surgical instruments, penknives, &c. reminded us that we have now a Sheffield of our own, and need not run across the ocean for articles of hardware.

In the judicious arrangement of his arches Mr. W. must have had fresh in mind the well known sentiment of Jefferson, who inculcated the propriety of placing the manufacturer by the side of the agriculturist.

Leaving a description of the *tout ensemble* to those whose longer stay gives them ampler means of doing it justice, we conclude our hasty notice of this portion of it by giving the appropriate motto:

"Few things are more cheering to the real friends of agriculture than the reports which are thronging in upon us from the different parts of our wide country—the success which has attended the numerous Agricultural Fairs, the enthusiasm which they exhibit in the great cause of Agriculture and domestic industry, must be considered as among the most favorable indications that the cause is progressive, and the course of the friends of improvement still onward. The county societies generally, and in particular the State Agricultural Society, have made evident advances in the public favor, and consequently in their wide spread usefulness."

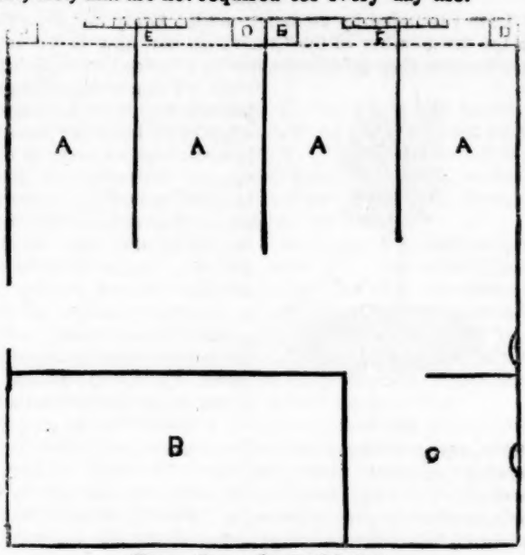
But without extending further this hasty notice of the Agricultural Temple and the delightful scenes of OUR Agricultural festival we close, availing ourselves of certain lines of Dean Swift altered to suit our purpose:

The Poughkeepsie Fair
Will ne'er be forgot,
By those who were there,
Or those who were not.

Lusus Naturæ.—There was born on Wednesday last, in the cow-yard of his Grace the Duke of Cleveland, a calf with two distinct heads and necks, only two shoulders, and two hind legs, but two distinct tails. It died immediately after being calved, and on opening it, it was found to contain one pair of lungs, one heart, one liver, and the intestines of one beast only.

PLANS FOR HORSE BARNS.

MR. TUCKER—One of your correspondents wishes the plan of a *horse barn*—stable, I suppose, with carriage house, &c. He calls for a cheap one. Opinions on economy are so various, I scarcely know how to suit him. Had he said log, frame, or brick, we might have come nearer pleasing him. I have supposed it frame, to strike a medium, and have supplied two plans, a square and a long building, to choose from. The square one, 24 by 24 feet, main building; and have added a saddle and harness house; knowing it to be of great importance. It should be ceiled inside, and have a glass window, if it is only four panes, and door, which opens out of the stable, always kept shut. It may be further improved by making a closet inside to lock up fine bridles, side saddles, &c., that are not required for every day use.



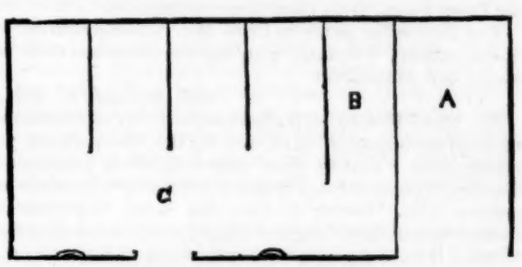
Horse Barn, 24 by 24 feet.

Stable, 16 by 24 feet—A. Stalls—E. Racks—D. Boxes—B. Carriage house, 8 by 16—C. Saddle room, 8 by 8.

The building is supposed to be 24 feet inside; the stall posts 3 by 6, if it is intended to nail the plank on; the plank at least 1¼ inch thick, with upright pieces across the ends, nailed with 20 penny nails; the plank 9 feet feet long, (if it is intended to tie the horses) and 6 feet 6 inches high at the horse's heads, and 5 feet 6 at the hind posts. If it is intended to gutter the posts and drop the plank in, they must be 5 inches square; the last is the best, if well done. If a common manger is wanted, it should be made out of plank 14 inches wide, and 1¼ thick, and should be at least 4 inches wider at the top than bottom when finished. If that proves any too large when in use, I will pay for the lumber, if the gentleman will call on me. The upper edge of the manger should be 3 feet 6 inches high, that the horse may eat with ease.

The rack should be placed 2 feet above the manger, and be strongly secured; the staves put in with an inch and a quarter or an inch and a half auger, and be 3¼ inches in the clear between each. There is another plan, however, which I like better—that is to make a long large box in place of a manger, say 2 feet across the top, and near 3 deep, to catch the hay or fodder that falls from the racks; a small box made for the corn inside the large one, and so arranged that hay will not fall in the grain boxes. No. 1 and 3 on the left of the stalls, and Nos. 2 and 4 on the right sides. Two short racks to be made about 7 feet long, one to be divided between stalls Nos. 1 and 2, and the other between Nos. 3 and 4, giving to each stall about 3½ feet of rack. The box underneath will save your hay from waste, and your corn boxes are always free from trash. I prefer a dirt floor (every one can suit themselves,) 9 or 10 feet between stable and loft floors, a good joist over each stall, and the stall posts morticed into the joists at top; joists 6 feet apart from center to center is quite sufficient; if the loft is laid with thick plank, say 1¼ inch, your stalls will be about 5 feet 6 inches in the clear, a large horse can lay down in them comfortably. The door of a stable should always be strong, and open outside; the smallest size for a door should be 4 feet wide and 7 feet high, and with little or no sill to step over. If a dirt floor is preferred, it should be 9 inches higher inside than the ground outside, and always kept clean and level. If the second story is 3 feet above the joists, there will be ample room for hay, &c. under so large a roof. I prefer all doors in the end of the stable, to avoid eave dripping in going in and out. A simple platform over the door is perhaps best to unload on, and to ascend to the loft by. A window or door should be placed at the opposite end to the entrance for ventilation and throwing out manure, and two narrow cracks may be left over the manger, to be closed in winter. A row of strong wooden pins 18 inches long, in the wall behind the horses, to hang harness, &c. on; harness should not be hung to the stall posts if it can be avoided. I have known frequent instances of horses getting their hind legs entangled and remaining so all night.

The same remarks will apply to finishing inside of the long plan, except that of the window. The windows are indicated by a double mark; they should never be made so large that a horse if alarmed, would attempt to jump through.



Horse Barn, 16 by 25 feet.

C. Stable, 16 by 24—B. Saddle room, 5 by 16—A. Carriage house, 9 by 16.

I wish Mr. Mott would make some alteration in his Agricultural furnaces. They take too long to boil; I take out the boiler and place it between two logs and boil it in one-third of the time it can be done in the furnace The stove should be as large again. Time is the most precious with us—wood no object. R. W.

Greenville C. H., S. C., 1844.

HOUSEHOLD ECONOMY.

TRIPE.—Take the tripe as soon as practicable after it comes from the animal, rinse it well in cold water, and immediately sprinkle a thick coating of air-slacked lime over the inside—roll it up, and let it lie till the next day. Then cut it in pieces eight or ten inches square, scrape it and put it in soak in salt and water, where it should remain seven or eight days, or till the strong smell is entirely gone, changing the salt and water every day. Then boil it tender. It may be soused like pig's feet, or it may be broiled, fried with sausages, or dipped in butter and fried alone.

SOUSE.—Take pig's feet, the head, &c., and after being well cleansed, boil them in water with a little salt, till the meat begins to drop off. Then slip out the largest bones, and put the meat in a stone jar, or well-seasoned wood firkin. Make a liquor sufficient to cover them, as follows: Take one quart of the liquor they were boiled in, two quarts of vinegar, spiced with cloves, allspice, pepper, and cinnamon. While the meat is still warm, pour the liquor, boiling hot, upon it. In a few days it is fit for use, and may be either rolled in flour and fried in lard or sausage-fat, or warmed in a little of the liquor, or eaten cold.

The feet and shanks of *cattle*, cleansed in the same manner as pigs feet, are excellent. When sufficiently boiled, all the bones should be taken out, and the meat immediately chopped fine, and seasoned with salt, pepper, allspice, summer savory, and sage. When wanted for use, they may be warmed over in a little butter, and are nice, delicate eating—scarcely inferior to oysters, which they somewhat resemble. They make equally as good souse as pig's feet. The jelly which is left after

they are boiled, makes excellent *blanc mange*. All these articles are frequently thrown away in families. With a little labor, they constitute the most favorite dishes—fit for a king, or *even* a farmer. A HOUSE KEEPER.

HUSSEY'S REAPING MACHINE.

TO THE EDITOR OF THE CULTIVATOR—Several notices of my Reaping Machine have already appeared in the Cultivator, and I would not now intrude on your valuable pages, did I not believe that a large number of your readers are much interested on the subject of cutting wheat by machinery.

It is now ten years since my invention of the Reaper. I have been constantly engaged since that time in its improvement. Although the grand principle has never been departed from, it has undergone several changes in its general construction, with a view to convenience and durability. It cannot appear strange if some of these changes may have been for the worse, and thereby endangered its good name. With this hazzard in full view, I have followed every idea which promised any improvement; the result has been the production of an implement as near perfection, I apprehend, as any thing of the kind can well be. The improved Machine has been in use three years, with increasing reputation.

The following letter is from Mr. Washington of Jefferson county, Virginia, who has cut three harvests with one of my Machines:

Bell Air, July 8, 1844.

Mr. Obed Hussey—Our harvest is over, and has afforded another opportunity of testing the Reapers of your construction. Unlike most patent farming implements, they manifest their utility more evidently with each successive trial. Owing to rust, the straw this year was spongy and difficult to cut with any tool; it was also much fallen. Those farmers who witnessed the operation of my machine admitted that cradles could not have done the work so effectually. L. W. WASHINGTON.

Cautious farmers at the present day place little confidence in certificates. I will only add the following extract of a letter from Mr. Watkins of Va.

Chesterfield co., Va., July, 1844.

Mr. Obed Hussey—Having never seen you since receiving the wheat cutting machine, I with the greatest pleasure make known to you the result of its performance, in cutting my wheat. It surpassed my expectation. In cutting wheat or oats, no reaper can surpass it as to quantity, neatness in cutting, and the laying of the grain to the greatest nicety, and to advantage for the binders. The having to pick it up as fast as it is cut, is in my opinion one great recommendation, because every operation is immediately under the manager's eye, consequently much more work will be done, and at night when the cutting is done, the picking is of course. Numbers have been to see its performance, and all left with delight. One old gentleman, a James river farmer, remarked, had he such a farm as mine he would not be without your reaper for five hundred dollars. JOHN WATKINS, *of Ampthill*.

Last summer I visited the Mississippi Valley to introduce the Reaper there in places where it had not been known. Four machines were sent on before me to places distant from each other. Every machine without exception gave the highest satisfaction. One was used in Kentucky for cutting hemp as well as wheat. Although the hemp was cut and laid completely, yet a great improvement is in contemplation for expediting the work, and saving the labor of hands. I refer for information to James Anderson & Co. of Louisville, Ky. Another machine was sent to Lafayette, Indiana. For an account of its performance I refer to Henry W. Ellsworth, Esq., of that place. Another machine went to Pekin, Illinois, where its performance was equally satisfactory. I refer to John Bennet, John Carmichael, and Matthew Brewer of Pekin. Another machine was sent to Mount Morris, near Rock River, Illinois. For a disinterested account of its performance I refer to Sam'l L. Hitt, of Mount Morris, and to Emmert, Halderman & Co. of Savannah, Ill.

My large machine requires four horses, and is warranted to cut from 15 to 20 acres per day—price 170 dollars. My light two horse machine is warranted to cut from 12 to 15 acres per day—price $100. Either of the machines is capable of cutting much more by a change of horses, and driving on a trot a portion of the time. Machines of medium size will be furnished at $140. The small machine is well adapted to ground cultivated in corn lands such as is usual on the eastern shore of Maryland and the counties of Va. bordering on the Chesapeake Bay.

No farther improvement is contemplated which can make the Reaper materially better than it now is. Farmers who are not acquainted with it may rest assured it is no humbug. To the references already given I will add the names of the Hon. Wm. H. Roane of Richmond, Va., the Hon. H. L. Ellsworth, Commissioner of Patents who witnessed its operation last summer in Indiana.

Baltimore, Md., Nov. 18, 1844. OBED HUSSEY.

TREES GNAWED BY MICE.

I am reminded by an article which lately met my eyes in the last number of the Cultivator, that now is the season for guarding against the attacks of mice on young fruit trees. I have accordingly just had my trees embanked slightly by inverting the sod in a circle about them by the spade. If young trees stand in grass ground, as is sometimes unavoidable but not desirable, they are in the greatest danger from these attacks. But by turning up a circular portion of the ground around them, as represented in the annexed figure, (fig. 1,) and raising it at the same time a few inches towards the tree above the common surface, the danger is greatly lessened if not wholly removed. The grass about the trunk no longer furnishes a hiding place for the mice; and the earth, by being raised, prevents the snow collecting at much depth about it, being blown away by the wind. By elevating a circular bank of earth ten inches or a foot around each tree, all danger is wholly removed.

Fig. 1.

Another, and the chief reason for thus inverting the sod, is to promote the growth of the tree, as a few spadings during the course of the season will in many cases triple the growth of a young tree in grass ground; indeed, we may about as well throw away our trees, as to plant them in grass, without keeping the soil for some feet about them, well cultivated for several years.

When trees become actually girdled by mice, I save them without difficulty, if they are not peach or nectarine, by a mode sometimes described in the papers, represented by the annexed cut, (fig. 2,) and which consists merely in connecting the bark above to the bark below the girdle, by an inserted piece. If the tree is small, portions of the wood and bark, at the upper and lower extremeties of the girdled part, are cut away with a knife, so as to leave smooth horizontal faces, as shown at *a. a.* If the tree is large, these are best cut in with a mallet and chisel. The limb of a tree is then made just long enough to fit in and connect these two cut faces together, taking care that the line of separation between the bark and wood of the tree and inserted piece, exactly coincide as in grafting. This inserted portion may be a small round piece with the bark on, or a larger piece, split, leaving the bark on the outer side. The whole may then be covered with grafting wax or other suitable composition, and, if low enough, embanked with earth. In small trees, a piece may be thus inserted on each side—in large ones, several should be employe[illegible]

Fig. 2

Trees several inches in diameter, may be saved by this means, if the work is carefully done; and the whole will grow over in a few years. J. J. T.

10th mo. 1844.

SALT IN CURING CLOVER.

Analysis of the experiments of S. W. Pomery, Esq., by F. Mortimer Butler.

These experiments, made in 1804, are recorded in Transactions of the Mass. Ag. Society, vol. I, p. 105.

Experiment "No. 8, July 13.—Cut 9 tons clover, *one third of tops turned brown*, [cut] by 2 o'clock, spread, turned, cocked by 6 o'clock.—14th. Cocks turned bottom upwards, began to cart at 10 o'clock, packed in a bay with *one peck of salt per ton, very little heat.* Result, color completely preserved."

No. 7, July 12.—[Is a similar experiment,] "one fourth of the tops turned brown."—13th. Taken in at 11 o'clock, "*half a bushel of salt, small degree of heat.* Result, very excellent hay."

No. 6, July 11.—"Weather intensely hot, and scorching sun; cut 4 tons clover by 1 o'clock; *tops begun to turn brown;* spread, turned, cocked by 5 o'clock.—12th. Cocks turned bottom up; carted before 4 o'clock, packed in a bay with *half a bushel of salt per ton.*—13th. Considerable heat, none after. Result, well cured."

From the remarks of Mr. Pomeroy, it is understood that July 11th, 12th and 13th, were good hay days. This might have been realized from the fact that the natural ripening of the grass was progressing rapidly, inasmuch as the tops on the 11th "began to turn brown," on the 12th were "one-fourth brown," and on the 13th were "one-third brown." In the same ratio, a few days more would have converted the grass into standing hay.

Please observe No. 8. In this experiment, after one-third of the tops had turned brown, there has been some wilting in the swath; some ripening, through exposure to the sun; and some sweating in the cock. Can it then be said, that the curing of the grass was effected by the one peck of salt per ton, or are we to be surprised at the very little heat. But little reflection is needed to settle these points. The grass had in reality become changed into hay before being carried in. But one thing, therefore, in the absence of salt, was needed for its preservation, viz. thorough drying. Our farmers are aware of the fact, that when the heating action is nearly over, that is when the sap is nearly ripe, hay may be carried in damp, and be preserved, provided that salt is used to take up the loose moisture. In this experiment, the cocks were turned bottom upwards, but not opened to become thoroughly dry. Salt then served to take up the loose moisture.

No. 6 was cut in a greener state, received similar treatment, and was carried in at 4 o'clock, consequently remained in cock five hours longer than No. 7; this extra time in sweating was not sufficient, at this stage of growth, to effect the ripening of the sap to the same degree as that occurring in the grass left standing that day; consequently, we notice "considerable heat." Our farmers say that it is best for hay to heat a little in the mow. In this experiment, the curing not being sufficiently completed in the field, was finished by sweating in the mow or bay. This sweating, however, was too great, and the hay would in all probability have been mow-burnt, had not salt been used to take up the loose moisture. Had the hay been less ripe, neither salt nor salt-petre would have saved it.

Please observe the progress of natural ripening from the 11th to the 13th of July (in No. 6, 7, 8,) as "begun," "one-fourth," and "one-third turned brown." Compare it with the artificial ripening effected in about one day's curing, as indicated by the degrees of heat, "considerable," "small degree," "very little heat." Do they not contrast well, even after allowing for the five hours extra sweating in No. 6, and setting aside the supposed agency of salt in the curing.

"No. 5, July 10. Four tons clover cut and managed as No. 4; [*clover in full bloom*, cut by 1 o'clock, spread, turned, cocked by 5 o'clock.] 11*th, remained in cock.* 12th, cocks turned bottom upwards, carted middle of the day, and packed in a bay with *half a bushel of salt* per ton; small degree of heat. Result, well cured."

Between Nos. 6 and 7, there is a difference of one day's time in cutting, consequently one day's natural ripening. Only 5 hours extra time is allowed in curing that earliest cut. This I have stated to have been too small an allowance. Please observe that between Nos. 5 and 7 there is a difference of two days standing, and that in No. 5 there is two days curing, *one day being by sweating in cock.* Compare the degrees of heat and they will be found to correspond, viz: "small degree of heat." Had No. 5 been thrown open and thoroughly dried, and then packed away with one peck of salt per ton, we would in all probability, had the return, very little heat, color completely preserved. At all events, it is curing by wilting and sweating.

No. 3, is four tons clover, cut on the 9th July, "*remained in cock the 10th;*" carried in on the 11th; "half a bushel of salt." Result, well cured, of a good color. This is another specimen of wilting and sweating, and as such, speaks for itself. We will pass to other experiments, showing the matter more clearly.

"No. 4. July 10th.—Cut two tons clover *in full bloom*, by 1 o'clock; spread, turned, cocked by 5 o'clock. 11th, cocks turned upside down; carted in forenoon, very green, packed on a scaffold with *theee pecks of salt* per ton, *heat some days.* Result, '*black, some of it mouldy, smoked when removed,* but eaten freely by horses.'" That is to say, the horses ate a black carbonaceous mass, to obtain the salt contained in it. In this experiment we have green grass, it being only in full bloom; with one day's curing, and yet the salt could not save it. The green state of the grass called for longer time in sweating, as will be seen.

"No. 2, July 9th.—Clover *in full bloom*, second year's cutting, with a small portion of herds grass, very rank; mown between 7 and 1 o'clock, spread, turned and cocked up by 5 o'clock. 10th, cocks turned bottom upwards; afternoon, three tons carted to the barn, *found too green;* remained on carts till the 11th; spread very thick on an adjoining field, turned, exposed three hours; carried in without loss of head or leaves; *supposed half made;* packed in a bay with *half a bushel* of salt per ton; next day a little heat. Result, well cured, of a good color."

This experiment speaks for itself; wilting and sweating had been resorted to. The remark, "supposed half made," seems to rob it however, of its true merit. There can be green hay, as well as green grass. In the former, the word green applies to the color; in the latter, to the succulent state. Well cured hay, by the wilting and sweating process, carries a pea green color, and thus is liable to deceive our farmers, who are more accustomed to a greenish hazel or chocolate tint. Any one familiar with the wilting and sweating method, would say that in No. 2, is presented a fair though not perfect specimen of curing by that method. The grass having been dried and wilted on the 9th, retained in cock and in mass (as on the carts) on the 10th then thickly spread out for 3 hours on the 11th, with the weather intensely hot and a scorching sun on that day, would naturally look for but little after heat in the bay. The remark, "next day a little heat," is sufficient to show that it was cured before it went in. The good color must have led to the supposition that it was but half cured.

No. 1, July 7th. Is "three tons fine English hay, *supposed to require one good hay day to make it;* packed 4 feet thick on a scaffold, with one peck of salt per ton; no heat; very damp some days after. Result, came out bright, sweet, and very heavy; cattle fond of it. This needs no remark. [The hay weather previous to the 11th of July, was by no means good.]

Permit me to remark that the science of agriculture is deeply indebted to Mr. Pomery for the precise detail of these experiments; they are a good pattern for those seeking improvement in agriculture. Respectfully,

F. Mortimer Butler.

P. S. I make the following extract from the same work, page 106:

"My clover, which covered two acres, was beat down by a severe storm of wind and rain, preceding the 23d

of June. The 25th, I gave directions to cut, and dry the water from it as soon as possible; to cart it into my barn the same day, if sufficiently dried, and to sprinkle from three pecks to one bushel of salt on what might be considered a ton, when cured, in three layers.

These directions were executed with care; the salt was coarse Liverpool. Four heavy loads were put into the barn before night; the remainder before the morning of the 26th. It was perfectly green, and in a perfect blow of flowers. It was packed on a scaffold 20 feet by 10. *I believe not a stalk or leaf was wilted.* The weather appeared unsettled, which induced me to have it housed as soon as it was dried.

The third and fourth days succeeding, every appearance was favorable to its preservation. It continued green, and the flowers as fresh as when first cut. From this period it changed color rapidly to black, with a considerable degree of heat and moisture, from a solution of the salt and the succulent state of the leaves and stalks. It wet the floor, and in many places dropped a salt colored liquor. It discharged very offensive effluvia for several days, after which the hay changed to a dirty white, and appeared rotten. The heat subsided, as is usual, after a completion of the putrid process. In the last described state it remained, and I presume is of no value except for manure.

A FRIEND TO EXPERIMENT IN AGRICULTURE.

GRASSES FROM BERMUDA.

EDITOR OF THE CULTIVATOR—I send you herewith some samples of grass forwarded by Gov. Reid from Bermuda, with a view to its comparison and identification with the so called "Bermuda grass" of the southern States, samples of which he supposes you have in your possession. The laudable zeal and enterprise which Col. Reid has shown in promoting the agricultural and other interests of the colony over which he presides, and his generous devotion to the cause of science, and the general interests of our race, entitle him to any information which it may be in your power to impart. You have annexed an extract from his letter to me, which accompanied the grasses. Very truly yours,

WM. C. REDFIELD.

GOV. REID says: "In the Cultivator I have more than once observed allusion made to Bermuda grass as a grass highly prized in the Southern States. As specimens have been sent from Louisiana to the Editor, I have thought that he or others might like to compare them with Bermuda specimens. I have therefore sent three specimens for him, and although we suppose that No. 1 is what is called Bermuda grass in Louisiana, we are not quite certain of it. If the editors wish to identify this grass with any one of our native grasses here, I shall with great pleasure assist them farther.

"I also enclose a fourth grass, which we call Fox-tail grass. I have watched it ever since I have been here, and think it a valuable grass. It had previously been neglected and almost unknown. The Timothy grass of the United States is said to have been brought from Carolina to England in 1780, by Timothy Hudson, and from him derived its name. But what I now send you is not Timothy. Yet it may really be what Timothy Hudson took to England; for it agrees better with the soil and climate of Bermuda than the imported Timothy grass."

Description accompanying the grasses.—"No. 1, called in Bermuda, *Pond grass*, from liking moist soil. This is supposed to be what is called Bermuda grass in the southern States of America. It is a very valuable grass."

"No. 2. This resembles the other in general form and habits, but looks to the eye much coarser, and seems to like the spray of the sea and swampy ground. It has been but little noticed in Bermuda, and is probably much inferior to No. 1."

"No. 3. This is called the *Crab grass* in Bermuda. It is prized by the inhabitants; and as it mats the ground, and subdues almost all the others, it has hitherto received the most attention; though No. 1 will probably be found to be the most valuable."

"No. 4. A specimen of the Fox-tail grass of Bermuda."

REMARKS.—We are much obliged to Gov. REID and Mr. REDFIELD, for the pains they have taken in forwarding the above described specimens of grasses. Nos. 1 and 2 evidently belong to the same genus as the "Bermuda grass" sent us from Mississippi by Mr. Affleck, and the first, which Mr. Redfield thinks is *Paspalum vaginatum*, bears a strong resemblance to it, though it is not identical. We have several species here of similar character, but they are all *annuals*. Loudon enumerates twenty-six species. No. 3, marked (we suppose by Mr. Redfield,) as *Rottbœllia dimidiata*, is somewhat different from the others, though still resembling them in several general characters, such as the division of the head, the manner of producing seed, and striking root. The specimen marked "Fox-tail," is apparently the same as the annual Fox-tail, *Alopecurus agrestis*, and is frequently troublesome by growing among corn and other cultivated crops on light warm soils, near barns, &c., and is often called "*barn-grass*." It will be observed that it is quite different from Timothy, *Phleum pratense*, the latter being a perrennial grass of a different genus. Though none of the tribes of grasses to which the specimens sent belong, are considered of much value with us, yet the difference is so great in our location and climate from that of Bermuda or the West India Islands, that they may be there highly valuable.

We may be permitted to remark here, that the deep interest which we have repeatedly seen manifested by Gov. REID, in the cause of agricultural improvement, cannot fail to be of essential benefit to the people of the Island under his government.—EDS.

APPLES FROM NOVA SCOTIA.

MR. L. TUCKER—I send accompanying this letter, a box containing the following varieties of Nova Scotia apples, and a newspaper containing a report of our County Cattle Show and Fair:

No. 1. Name unknown—Great bearer; good for eating

No. 2. Fall Pippin—Middling keeper, and good for cooking.

No. 3. Cat Head—Good for cooking.

No. 4. Unknown—Good apple.

No. 5. Calkins—Good for eating; may be used in December.

No. 6. Gravenstein—Lately introduced from England; one of the best apples raised; good bearer.

No. 7. Unknown—Supposed to be the U. S. Spitzenberg.

No. 8. Unknown—But good bearer.

No. 9. Nova Scotia Spitzenberg—Good keeper and shy bearer.

No. 10. Scotch (called the,)—Good keeper and bearer; of good flavor.

No. 11. Ribston Pippin—Good flavor; good bearer

No. 12. Long or Bishop Pippin—First rate apple.

No. 13. Sheep Nose—Good bearer; good eating in December.

No. 14—Fall Pippin (called)—Good for cooking; good bearer.

No. 15. Greening—Superb keeper; good flavor.

No. 16. Pomme de Gras—Fine flavor.

No. 17. Iron Apple—Good keeper.

No. 18. Native or Wine—Good bearer; good flavor in November and December.

No. 19. Unknown—Good flavor.

No. 20. Nonpariel—The best keeper we have. I have kept them for one year, and I have known them to be kept two, although the flavor "absquatulates."

I could not make a general selection as I intended, in consequence of the vessel sailing sooner than I expected, All that I send, with the exception of the *Wine Apple*, are varieties introduced from the United States and England, principally by the Hon. C. R. PRESCOTT, who must be acknowledged the father of horticulture in Kings County. The Wine Apple, so named, was planted by the French before the colony became a British Province. There are many good varieties of native fruit, but the imported are so much better, that in planting an orchard or grafting, they are mostly selected. I hope you will

not think I send them presuming them superior to productions of your fine country, but simply to show you that we can raise fruit and of a fine quality.

Yours, &c. CHARLES C. HAMILTON.

Cornwallis, Oct. 14, 1844.

The box of apples spoken of above, came safely to hand. Several of the specimens are quite large—all are of fine shape, and some of them of superior flavor. In point of quality, we think the *Gravenstein*, No. 6, stands at the head. The sample sent is the first of this noted variety we have seen. It is in all respects a very superior apple—excellent in flavor, and beautiful in appearance. The sample marked No. 10, *Scotch Apple*, is likewise a highly flavored and fine apple. The *Ribston Pippin*, No. 11, which in former years has been a favorite apple with us, is a good sample, and fully sustains the character of the variety. The same may be said of the *Norpareil*, No. 20. The *Native* or *Wine*, No. 18, is a good flavored apple, and would probably make superior cider. The *Pomme de Gras*, No. 16, we should think a fine fruit. The sample marked *Greening*, No. 15, is not the apple commonly known by that name in the United States. The sample marked No. 7, "supposed to be the *U. S. Spitzenburg*," is not that apple. The Spitzenburg here cultivated, has a yellowish flesh color, is crisp, and is of a brighter red color than the sample sent. The *Long*, or *Bishop's Pippin*, No. 12, we think is identical with our *Bell-flower*.

Considered in all respects, the lot of apples sent by Mr. Hamilton, shows that the people of Nova Scotia have no need to send abroad for that description of fruit, but that on the contrary, the soil and climate of that country, will admit of their producing fine qualities for their own consumption and exportation.—EDS.

SHADE AND TIMBER TREES.

I was glad to see the remarks in a late No. of the Cult. on "Trees for Shelter and Ornament," with which I entirely agreed, with one exception. This is in attributing great benefit to shade for cattle in pastures. In saying this, I would be the last to foster the spirit of vandalism which unrelentingly sweeps from the farm, those beautiful and magnificent and refreshing objects of creation, ornamental trees. There are reasons enough to induce any man who has any refinement or civilization about him, to preserve a sufficient plantation of trees about his dwelling and farm yard, without urging what he may doubt as fact, and which indeed may be incorrect. We often lose as much by urging too many or untenable reasons, as by saying too little.

I very much question the propriety of allowing trees to stand along the borders of cultivated fields, or in pastures where the land is smooth, fertile, and dry for culture. The difficulty they cause in even and neat cultivation, is obvious to most farmers; and the loss of crops they occasion beneath their shade is much greater than many suppose. But besides these, it may be questioned if they do not often prove detrimental to the comfort and thrift of cattle, rather than otherwise. "But the cattle dread the scorching rays of the sun!" So do the horse-flies, and blood-suckers, and musquetoes. Hence they all seek the shade together; and there the cattle stand, for the comfort of the shade, and fight flies, till gnawing hunger compels them to seek for pasturage in the sun.

Experiment, of course, ought to settle this point; I know of but one, however, correctly performed, which permit me to state, as it first appeared in the New Genesee Farmer. Arthur F. Bill of Indiana, who milked fifty-five cows, had two pastures, of seventy-five acres each, both seeded with the same kind of grass, the feed equally good and both well watered. One had no shade in it; the other had scattered trees, and a small piece of woodland. The cows were confined to each pasture, each alternate week. When the hot weather of summer came on, the proprietor noticed that when the cows were in the shady pasture, the weight of the daily cheese was from 15 to 20 lbs. less than during the week they were in the other pasture. Such was the eagerness with which they sought the shade, that they were noticed to feed only half as many hours during the day when they could find it, as when wholly in the sun.

But if trees are not allowed in arable fields, where then shall we have them? I answer, first, about your houses. Every man who has a wife, or children, is bound by every reason, selfish, humane, moral, and religious, to render home pleasant to the former, and attractive to the latter. How many young men might thus have been preserved from bad company and dissipation and ruin.

Secondly, along hill-sides, gulleys, and other uneven pieces of ground, according to the excellent directions in the article just alluded to, and where the growth of valuable and well selected timber might in a few years prove of great value.

And with the hope of answering, in part, some of the inquiries of that article, permit me to say a few words on the Larch.

The European Larch has been very extensively planted in some parts of Scotland as a timber tree, its great excellence having been thoroughly proved. The rapidity of its growth is remarkable. Some trees planted on the fertile grounds of the Duke of Argyle, grew to a height of 120 feet in fifty years, averaging nearly two feet and a half each year. Other trees, eighty years old, produced six loads (300 feet) of timber, each. The Duke of Athol had the satisfaction of seeing a British frigate built at Woolwich in 1819 and 1820, of timber planted by himself and his predecessor. The durability of this species is very great. Posts of oak, on the river Thames, which were placed so as to be alternately covered by water, and left dry, by the rise and fall of the tide, were twice renewed from decay in the course of a few years; while those made of larch, in precisely similar circumstances, remained wholly unchanged.

In speaking of its value and rapidity of growth, the Duke of Athol said, "It may vie in growth and profit with the Huntington willow, which has deen said to buy the horse, before any other tree could buy the saddle."

It has been remarked, in connexion with its durability, that while the heart wood is not formed in other resinous trees till after many years,—the larch begins to make it soon after it is planted; branches only an inch in diameter containing as great a proportion of heart wood as the largest trees of the forest.

This is not the case with the American larch, a considerable portion of sap wood existing in small trees, which soon decays. The heart wood however is durable; but to what degree I do not know.

The European larch appears to be a native of mountainous districts, and of course succeeds well on poor and hilly regions. It grows well when planted in common soils in western New-York, but to what size or with what degree of rapidity, more and longer experiments are required to determine. There can, however, be scarcely a question of the propriety of its introduction as a timber tree, provided the young plants can be easily obtained, which is not now the case. For ornamental beauty, it has scarcely a rival of its kind.

The American larch exists in great abundance in many swamps in the northern portion of western New-York, where it is commonly called *Tamarack*, perhaps corrupted from *Tamarix*, which it slightly resembles externally, but to which it has no affinity. It may be easily transplanted to dry upland when small, where it flourishes, especially if care is taken to remove with it a portion of the muck adhering to the roots. For ornament, it bears no comparison with the European. For durability, as fence posts, timber, &c., it is not enough examined or known, and I hope those who have tried it, will communicate their experiments, for I see I have not given much information, after all, on the subject. J. J. T.

GRAPE VINES.

MESSRS. EDITORS—I saw an article in the 10th No. of the present vol. of the Cultivator, stating that a grape vine, left to its natural habits, will bear as well as if it were dressed in a proper manner. No doubt it will *bear*, but who will be able to give sufficient proof to a person acquainted with vegetable physiology, or with horticulture, that a grape vine or any fruit-tree, left to itself, will

bear as *much* and as *good* fruit, as those dressed in a judicious manner? Let the enlightened readers of the Cultivator look at the treatment the vine receives in Maderia, the Ionian islands, or any other country where the cultivation of the vine is made a science, and they will soon see the absurdity of trying to maintain that nature, left to herself, will in this case perform her work as well as it can be done by nature's *journeymen*. I think it useless, for the present, to advert to further proofs, but should your readers desire it, I will, in a future number, speak more fully of the utility of general pruning.

Greenbush, Nov. 1844. TYRO.

SWEET AND SOUR APPLE.

A writer over the signature of "S." in the October number of the Cultivator, remarks on the various humbugs of the day. We are are well aware that there are humbugs enough afloat at this day, to satisfy the most credulous wonder seekers. Among several undoubted cases of this character he alludes to the apple, said to be produced, part sour and part sweet. The writer of this has within a few days, seen and tasted an apple, one side of which was decidedly sour, and the opposite side as decidedly sweet, *not produced* by placing the bud "upside down," but by taking parts of two buds, one from a tree producing sour, and one from a tree producing sweet apples, and joining them nicely together.

Can you inform your readers where grafts of the "King apple" can be obtained? We have eaten one from the orchard of Mr. George Walker, near Ithaca, Tompkins co., and consider it the best apple produced any where. The King apple is red, of a medium size, slightly sour, and very juicy and rich. When baked, it makes a delicious jelly that nearly fills the pan. E. R.

We do not know the "King Apple," nor where scions of this variety can be obtained. It is possible it may be what is described in some catalogues as the "King of Pippins," which Mr. Kenrick, in his New American Orchardist, says is "a first rate fruit, which no garden should be without; middle sized; oblong; color, clear golden yellow, fine red next the sun; rich and juicy. Autumn. Productive."

CULTIVATION OF SPRING GRAIN AT THE SOUTH

It appears that in South Carolina, oats and barley may be sown in the fall, and the frost of winter is not hard enough to kill them. Our friend, Mr. Wm. Summer, of Pomaria, as chairman of a committee appointed for the purpose, recently submitted a report to the Newbury Agricultural Society, on the cultivation of oats, rye, barley, and buckwheat, from which we gather the following facts:—For oats, fall sowing is preferable, as the oats are not liable to be injured by spring drouth; the yield is greater, and the head much better than if sown in the spring. If not sown in the fall, they should at all events be sown during the month of February. Cotton seed, if applied to them, is of more importance to this, than to any other crop. The seed should be carefully plowed in, or if the ground has just been broken up, a heavy iron toothed harrow would perhaps answer a good purpose in putting the seed to a proper depth. The selection of proper seed is also a subject of much importance. There are however, some excellent varieties of oats cultivated among us. The Bremen or Potatoe Oats, is preferred by some, while others prefer the Ruffled. The black and white Tartarian, although not yet cultivated among us, are said to be the best description for the poorest exhausted soils, producing more on those sorts, than any other variety.

"*Rye* has been cultivated perhaps as long as any of the varieties of small grain, and its cultivation is becoming a matter of increased importance, as it is found particularly adapted for grazing, furnishing the best early spring pasture we can have recourse to for lambs, young calves, and pigs. Care sho 'd be taken not to graze horses, cattle and hogs upon it while young, and particularly while the ground is wet. It is not so easily pulled up by the roots, and is therefore better adapted to grazing hogs, than any other variety of small grain. If the intention is to pasture, it should invariably be put in during the month of September; it will then be fit to graze in February, at which time it will be particularly valuable, especially for ewes, with early lambs.

"*Barley*, has been cultivated from the earliest antiquity, and was much in use among the Romans, both as food for soldiers and horses. It is, upon the whole, one of the most valuable and important grain crops, which we can cultivate. It is almost invariably a certain crop, as from its early maturity it makes itself from the winter seasons. For soiling cattle and horses it is superior to any other grain that we can have recourse to. When soiling is the principal object, it is advisable to sow at different times, from the first of October until the last of November; thus furnishing it in succession from the first of March until May. When young, it should be cut off carefully with a keen grass scythe, and raked neat and careful, and if the soil has been made rich, a second cutting can be obtained. It requires a rich loamy soil, and where this cannot be readily obtained, the ground must be made rich by supplying the necessary quantity of stable manure. Ashes is important to this, as it is to every other grain crop. Unless the ground is made rich, you can never expect to succeed with the crop; and as only a few acres are required for the purpose of soiling, even on the largest farm, the ground can be readily manured. Cotton seed applied liberally, is also an excellent manure. As soiling is the principal object, the spot selected for barley should be near, and convenient to the stables and cattle yard. Sow from a bushel to a bushel and a half to the acre. The ground should be deeply broken up, and the seed neatly plowed in; the whole should then be well harrowed, so that the ground is thoroughly and finely pulverized."

ROTATION OF CROPS FOR SOUTH CAROLINA.—We make the following extract from an address delivered before the Greenvile Ag. Society of S. C., on the 19th Oct. last, by Hon. JOEL R. POINSETT. He says:—"Whatever system may be adopted must be based upon the rules laid down above. Do not cultivate grain crops on the same land two years in succession. Do not repeat the same crop at too short intervals. Change the seed frequently. The order of succession, as I said before, is of little consequence. Cultivate turneps in drills, and abundantly, as also sweet potatoes and peas; all of these are to be regarded as fallow crops, fitting the land to receive grain. Raise rye, the long straw of which is very useful in the preparation of dung. Manure your fields, and cultivate only that portion of land which you can manure sufficiently. I will venture to suggest a rotation of crops for four years, which it appears to me would suit our soil and climate:—

In the Light Soils.

First year, turneps and potatoes.
Second year, rye and oats with clover seed.
Third year, clover, cut once and plowed in.
Fourth year, wheat.

On Stronger Lands.

First year, Indian corn with peas well manured.
Second year, rye and oats with clover seed.
Third year, clover cut and turned in.
Fourth year, wheat.

These rotations are founded upon the principle that as much land as can be spared shall be cultivated in green crops, and a portion of it left in pasturage, in order to afford sustenance for cattle, and thereby furnish manure for the corn and grain crops. It is vain to encourage the farmer to raise fine cattle, until he has been taught to cultivate green crops to feed them. Fine cattle fed on broom-sedge, and left to seek a scanty subsistence in the woods, will soon degenerate; whereas, the common stock of this District, if fed on turneps, potatoes, peas and clover, would improve and become an excellent race. The heat of the climate cannot be pleaded in excuse for our neglect. Lucerne will stand our sun and furnish permanent pasture. Clover will flourish and yield abundantly the first and second year; after which the best use that can be made of it is to turn it under, to prepare the land for wheat, rye and oats."

POULTRY.

JAMES L. CHILD, ESQ., of Augusta, Maine, gives in the Maine Farmer, an interesting account of his mode of managing hens. He keeps several varieties, and is making some crosses by way of experiment. He gives the preference, "considering their qualities, food, eggs, hardiness, &c., to the Polands," and says "they have truly been denominated *everlasting layers*. The Poland Hens seldom show an inclination to set, and the Dorkings much less than the other varieties. My Hens laid nearly as well during the winter as in the warm weather. Their habitation was warm, and so constructed as to bring them to the ground, where they found, at all times, a good supply of old plastering, ashes, pulverized oyster shells, charcoal, fresh water, once or twice a week beef liver, or some other kind of meat or grease instead. I feed chiefly upon baked or boiled potatoes, giving their food to them warm in the morning and at night, occasionally dealing to them a little corn or oats, and giving them all the crumbs, and skins, and fragments, of the cooked vegetables. To prevent their being infested with lice, about once a fortnight I mixed in dough, so as to discolor it, a quantity of flower of brimstone, which is the sure preventive as well as remedy, and may safely be given in small quantities to young chickens for the same purpose. It will be seen from my mode of keeping my Hens, which averaged about 25 and 3 Roosters, through the winter, that I cannot give the precise cost of keeping, but I am satisfied that potatoes may be given as the general food, and Fowls kept cheaper in this mode than in any other—and they will always be ready for the spit, if not stinted in quantity. I find my Fowls fat at all seasons. I estimate that my hens afford me from their eggs, without regard to their meat, a clear profit of fifty per cent. I confine them to their yard, hen house, and barn cellar during gardening, and to their house and cellar in the winter, and think with that degree of confinement, they lay better than when allowed to wander at large. Hen houses and roosts should be kept neat, and often whitewashed, and their nests should always have half an inch or more of ashes or lime on the bottom, under the hay. Broken or rotten eggs should never be allowed to remain in their nests. Dirty water should not be given them. To do well they require pure water, and all their food fresh and uninjured from taint or fermentation. I estimate that during the year, (deducting the time of their molting, and inclination to set) I have got daily one half as many eggs as I have had laying Hens. Every family can, with a very little trouble with their flock of a dozen Hens, have fresh eggs in plenty during the whole year, say in all, 2000, and 100 full grown Chickens; and of all the animals domesticated for the use of man, (if such be the fact) the hen is capable of yielding the greatest possible profit to the owner. I have stated that I gave my Fowls meat or grease; this is indispensable if they are not allowed to go at large. If corn is fed out, it should be soaked, and 15 bushels is a fair yearly allowance for 12 Hens and a Rooster. But they should always have food by them, and after they have become habituated to find enough at all times in the trough, they take but a few kernels at a time, except just before retiring to roost, when they will take nearly a spoonful into their crops—but if they are scantily or irregularly fed, they will greedily snatch up a whole crop full at a time, and stop laying, and not unfrequently engender some fatal disease.

THE HOUSEKEEPER.

From the "Housekeeper's Annual" for 1845, a pretty little work issued by Carter & Co., Boston, we copy the following Recipes:

TO MAKE YEAST.—Boil for half an hour two quarts of water, thickened with about three spoonfuls of fine flour, and sweetened with nearly half a pound of brown sugar, or two teacups of molasses. When almost cold, put it into a jug adding four spoonfuls of fresh yeast. Shake it well together, let it stand uncovered near the fire for a day to ferment. There will be a thin liquor on the top, pour this off, shake the remainder, and cork it up for use. To make half a peck of flour into bread, a quarter of a pint of the above mixture will be needed.

SOFT CUSTARDS.—Boil one quart of new milk and with it cinnamon, mace, or lemon peel. Nine eggs, leaving out five whites, beat them well and add them to the milk, sweeten it with loaf sugar. Add rose water if you like. Put the custard into a pitcher, place it in a vessel of boiling water, stir it constantly. Beat the reserved whites to a stiff froth with powdered sugar, add a little rose water, or essence of lemon. Lay this frost on the top of the custards. The contrast is pretty, and more cups may be filled.

PENNSYLVANIA APPLE BUTTER.—To make this according to German law, the host should, in the Autumn, invite his neighbors, particularly the young men and maidens, to make up an apple butter party. Being assembled, let three bushels of fair sweet apples be pared, quartered and the cores removed. Meanwhile, let two barrels of new cider be boiled down to one-half. When this is done, commit the prepared apples to the cider and let the boiling go on briskly and systematically. But to accomplish the main design, the party must take turns at stirring the contents without cessation so that they may not become attached to the sides of the vessel and burn. Let the stirring go on till the amalgamated cider and apples become as thick as hasty pudding, then throw in powdered allspice, when it may be considered as finished and committed to the pots for further use. This is Apple Butter; and it will keep sweet for many years. It is a capital article for the table.

COTTON BEDS.

We have received from J. A. GEURNSEY, Esq. a copy of the "Southron," published at Jackson, Miss., containing some remarks on the advantages of cotton for bedding. These advantages may be summed up as follows. It is claimed that "it is the cheapest, most comfortable, and most healthy material for bedding, that is known to the civilized world." In addition to these, may be named "*superior cleanliness*—vermin will not abide it—there is *no grease* in it, as in hair or wool—it does not get *stale* and acquire an *unpleasant odor*, as feathers do—moths do not infest it, as they do wool—it does not pack and become hard, as moss does—nor does it become dry, brittle and dusty, as do straw or husks—and it is in many cases *medicinal*." It is said not to cause that lassitude and inertia, which is produced by sleeping on feathers. People not acquainted with it, have supposed they had been sleeping on the best feathers, when in fact their beds were made of cotton. The relative cost of cotton compared with feathers, hair, &c. may be seen from the following statement:

"*Cost of a Hair Matrass.*—They are generally sold by the lb. and cost from 50 to 75 cents per lb. 30 or 40 lbs. will cost $15 or $20.

Wool.—30 lbs. wool, at 30 cents per lb. $9; 12 yards ticking, at 12½ cents per yard, $1 50; labor, thread, &c., 2 75. Total $13 25.

Feathers.—40 lbs. feathers at 30 cents per lb., $12 00; 15 yards ticking at 12½ cents per yard, 1 87½; labor, &c. $2 75. Total $16 62½.

Cotton.—30 lbs. cotton at 8 cents per lb. $2 40; 12 yards ticking at 12½ cents per yard, $1 50; labor, thread, &c., $2 75. Total $6 65."

It is recommended to run the cotton through a "picker," where one can conveniently be obtained, before using. This gives it additional cleanliness and buoyancy.

The substitution of cotton for bedding throughout the United States, would be an immense saving, besides opening a new avenue for that article to an extent according to the estimation of this writer, equal "to more than two of the largest crops of cotton ever produced in the United States."

Mr. W. Turnhill, of Braceboro', near Stamford, has now in his yard a goose which has been on the same premises for 50 years. She lately laid 11 eggs, has hatched, and is bringing up 11 fine goslings.—*Stamford Mercury.*

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Troy, Oct. 25th, 1844

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